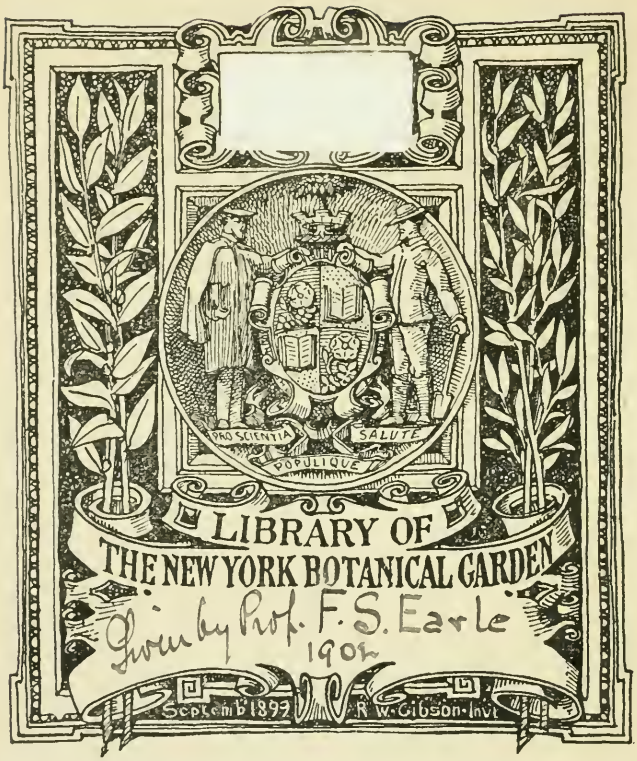

SALUTE
POPULIQUE
LIBRARY OF
THE NEW YORK BOTANICAL GARDEN
Given by Prof. F. S. Earle
1902
September 1899
R. W. Gibson Invt

TRANSACTIONS

OF THE

WISCONSIN

STATE HORTICULTURAL SOCIETY

INCLUDING

ADDRESSES AND PAPERS PRESENTED, AND PROCEEDINGS AT THE SUMMER AND WINTER MEETINGS FOR THE YEAR 1886-7.

VOL. XVII.

LIBRARY,
NEW YORK
BOTANICAL
GARDEN.

H. C. ADAMS, Secretary.

MADISON, WISCONSIN:
DEMOCRAT PRINTING COMPANY, STATE PRINTERS.
1887.

LETTER OF TRANSMITTAL.

To His Excellency, JEREMIAH M. RUSK,

Governor of the State of Wisconsin.

SIR: In compliance with law, I have the honor to transmit to you the seventeenth volume of the transactions of the State Horticultural Society, including a full statement of the receipts and expenditures of the Society, together with the papers read at its meetings in 1886-7, and such other matter as has been deemed likely to promote the horticultural interests of the state.

Very respectfully,

H. C. ADAMS,

Secretary.

XT
.R4257
v. 17
1884-1887

LIBRARY,
NEW YORK
BOTANICAL
GARDEN.

TABLE OF CONTENTS.

	Page.
Letter of Transmittal	iii
Officers for 1886	vii
Committees	viii
Members, 1886-7	ix
Recommended Fruit List	xi
Recommended Trees and Shrubs	xiii
Act of Reorganization	xiv
Constitution	xvi
By-laws	xvii
Publication Laws	xviii
Timber Laws	xx
Premiums Awarded at Janesville	xxii
Proceedings at Janesville Meeting	1
Debts of Honor, by Mrs. B. K. Towne	23
California Fruits, by J. B. Stickney	44
The History of some of our Cultivated Fruits, by Mrs. C. A. Willard	63
The Maple Bark Louse, by Prof. A. B. Seymour	81
Proceedings at Waukesha Meeting	86
Address of Welcome, by A. Cook	86
Response, by B. F. Adams	88
Secretary's Report	90
Report of Delegates	101
Ornamental Trees, by A. L. Hatch	109
Beautifying our Homes, by Mrs. D. Huntley	114
The Slaughter of the Innocent, by Ida E. Tilson	128
President's Address	135
Injurious Insects and how to Fight them, by Prof. A. J. Cook	140
When, Where and How to Teach Horticulture, by Chas. W. Garfield	159
Forestry, by B. S. Hoxie	168
Marshall Pinkney Wilder, by J. C. Plumb	182
Small Fruits in Chicago, by Jonathan Periam	188
Ethics of Horticulture, by Vie H. Campbell	197
Life of Women on Farms, as it is and as it should be, by Mrs. Alura Collins Hollister	204
Treasurer's Report	213

JAN 13 1902

Page.

PROCEEDINGS AT WAUKESHA MEETING—
Report of the Committee on Awards 219
House Plants, by Mr. Currie 221
Insect Pests 233
New Varieties of Small Fruits, by Geo. J. Kellogg 240
Handling and Marketing our Fruit, by C. H. Hamilton 246
REPORTS OF COMMITTEES ON OBSERVATION 250
First District, by G. P. Peffer 250
Second District, by N. N. Palmer 254
Second District, by Geo. J. Kellogg 259
Third District, by H. Robbins 262
Fifth District, by Wm. Toole 265
Sixth District, by A. D. Barnes 269
Eighth District, by Wm. Springer 272
Fourteenth District, by Mrs. H. C. Vaughn 275
REPORT OF JANESVILLE SOCIETY 277
REPORT OF GRAND CHUTE SOCIETY 278

OFFICERS FOR 1886.

PRESIDENT,

J. M. SMITH, - - - - - - - - - - - GREEN BAY.

VICE-PRESIDENT,

B. F. ADAMS, - - - - - - - - - - - MADISON.

RECORDING SECRETARY,

H. C. ADAMS, - - - - - - - - - - - MADISON.

CORRESPONDING SECRETARY,

B. S. HOXIE, - - - - - - - - - - - EVANSVILLE.

TREASURER,

M. ANDERSON, - - - - - - - - - - - PINE BLUFF,

SUPERINTENDENT,

B. S. HOXIE, - - - - - - - - - - - EVANSVILLE.

COMMITTEES.

EXECUTIVE COMMITTEE.

Ex-Officio.

THE ABOVE OFFICERS.

By Election.

Dist.		*Dist.*	
1.	S. HUNT, Evansville.	5.	HENRY FLOYD, Berlin.
2.	G. C. HILL, Rosendale.	6.	DANIEL HUNTLEY, Appleton.
3.	B. F. ADAMS. Madison.	7.	WM. FOOTE, North Adams.
4.	J. B. STICKNEY, Wauwatosa.	8.	E. G. PARTRIDGE, Warren.

9. WM. SPRINGER, Fremont.

COMMITTEE ON NEW FRUITS.

J. C. PLUMB, Milton. E. G. PARTRIDGE, Warren.
F. K. PHOENIX, Delavan.

COMMITTEE OF OBSERVATION.

Dist.		*Dist.*	
1.	G. P. PEFFER, Pewaukee.	8.	WM. SPRINGER, Fremont.
2.	N. N. PALMER. Brodhead.	9.	HENRY ISABEL, Fremont.
3.	G. H. ROBBINS, Platteville.	10.	ISAAC CLARK, Galesville.
4.	MRS. IDA TILSON, West Salem.	11.	——— ———, ———.
5.	WM. TOOLE, North Freedom.	12.	A. C. FISH, Bloomer.
6.	A. D. BARNES. Campbellsport.	13.	H. BARNES, Florence.
7.	JOHN SMITH, Depere.	14.	MRS. H. C. VAUGHN, Ashland.

COMMITTEE ON NOMENCLATURE.

J. C. PLUMB, Milton. G. P. PEFFER, Pewaukee.
H. FLOYD, Berlin.

FINANCE COMMITTEE.

B. S. HOXIE, Evansville. B. F. ADAMS, Madison.
N. N. PALMER, Brodhead.

COMMITTEE ON HORTICULTURAL FERTILIZERS.

Prof. W. A. HENRY, Madison. H. C. ADAMS, Madison.
G. H. ROBBINS, Platteville.

MEMBERS, 1886-7.

Adams, John, Markesan.
Adams, B. F., Madison.
Adams, H C., Madison.
Alcott, Wm., Brodhead.
Aldin, Isaac C., Weyauwega.
Anderson, Matt., Pine Bluff.
Anderson, Andrew, Neenah.
Arnold, A. A., Galesville.
Balch, A. V., Weyauwega.
Balsley, A. W., Weyauwega.
Barnes, A. D., Fond du Lac.
Barter, Sam'l, Markesan.
Baxter, John, Weyauwega.
Baumbach, Wm. von, Wauwatosa.
Bennett, A. S., Weyauwega.
Brown, J. M., Fremont.
Bostwick, J. M., Janesville.
Cook, Alex., Waukesha.
Callender, Robert, Fremont.
Campbell, Henry, Evansville.
Campbell, Mrs. V. H., Evansville.
Chappel, F. C., Oregon.
Churchill, Chas., Waupaca.
Chesley, Israel, ———.
Coe & Converse, Ft. Atkinson.
Cole, W. H., Brodhead.
Crane, Wilder, Weyauwega.
Daniels, E. W., Auroraville.
Daugherty, W. F., Preble.
DeForest, O. L., Janesville.
Dibble, G. W., Evansville.
Dickerson, H. J, Appleton.
Dore, J. S., Neillsville.
Eaton C. F., Fremont.
Edwards, J. N., Ft. Atkinson.
Emerson, M. E., Door Creek.
Fenelon, C. M, Weyauwega.
Field, S. F., East Troy.
Floyd, H., Berlin.
Fox, Wm., Baraboo.
Freeborn, S. I., Ithaca.
Gibson, H., Lind.
Gale, Isaac, Waukesha.
Gale, Alfred, Waukesha.
Gill, Wm., Dayton.
Goss, P. F., Pewaukee.
Graves, S. W., Brooklyn.
Greenman, H. C., Chatfield, Minn.
Hacker, T. L., Madison.
Haight, Nicholas, Syene.
Hamilton, C. H, Ripon.
Hanchett, Mark, Footville.
Hatch, A. L, Ithaca.
Hatch, C. A., Richland Center.
Hendricks, W. S., Campbellsport.
Helms, James, Janesville.
Heimstreet, E. B., Janesville.
Hill, Geo. C., Rosendale.
Hirschinger, Chas., Baraboo.
Holmes, G. W., Fremont.
Holt, M. A., Madison.
Howie, John, Waunakee.
Hoxie, B. S., Evansville.
Hubbard, R. M., Weyauwega.
Hubbard, Mrs. R. M., Weyauwega.
Hunt, Samuel, Evansville.
Huntley, D, Appleton.
Huntley, Mrs. D, Appleton.
Innis, W. T., West Rosendale.
Jeffery, Geo., 630 Chestnut St., Milwaukee.
Jewett, Z. K, Sparta.
Keeney, Miss, Weyauwega.
Kellogg, Emily L., Janesville.
Kindsman, C., Fremont.
King, Edmund, Whitewater.
Lawrence, F S, Janesville.
Le Roy, J. H., De Pere.
Lewis, E. D., Lake Mills.
Lake, Henry, Black River Falls.
Leaf, W. B., Oconomowoc.
Lewis, James, Oshkosh.
Libby, F. D, Madison.
Louden, F. W., Janesville.
Mahon, John, Preble.
McDonald, D., Verona.
Mack, John, Weyauwega.
Marsh, H. F., Sun Prairie.
Masters, Wm, Weyauwega.
Mathews, James, Weyauwega.
McWhinney, Jas, Lind.
Mills, Simeon, Madison.
Miner, Cyrus, Janesville.
Morrison, W. H., Madison.
Newton, Miss M. E., De Pere.
Noehle, Theodore, Green Bay.
Olds, B. B, Clinton.
Palmer, N. N., Brodhead.
Pammel, L. H, La Crosse.
Parfrey, A. C., Richland Center.
Parker, Col —., Lind.
Partridge, E G., Warren.
Peffer, Geo. P., Pewaukee.
Peffer, Miss Kate, Pewaukee.
Philips, A. J, Blunt, Dak.
Phœnix, F. K., Delavan.
Phœnix, Frank, Delavan.
Pilgrim, D. T., West Granville (Express office, Milwaukee).

Plumb, J. C., Milton.
Potter, C. W., Mauston.
Potter, Mrs. M. E., Weyauwega.
Radley, Mrs. A., Lind.
Ried, Wm., North Prairie.
Reid, Wm., Jr., North Prairie.
Reynolds, Werden, Green Bay.
Rich, O. A., Weyauwega.
Robbins, G. H., Platteville.
Roe, Jas., Oshkosh.
Spray, John, Ft. Atkinson.
Scheisser, Paul, Fremont.
Scribner, Joseph, Rosendale.
Seymour, A. B., Madison.
Seymour, A. N., Mazomanie.
Smith, D. P., Janesville.
Smith, J. B., Clinton.
Smith, Albert, Weyauwega.
Smith, Albert, Madison.
Smith, J. M., Green Bay.
Spencer, R. C., Milwaukee.
Spindler, Henry, Fremont.
Springer, Wm., Fremont.
Springer, John, Clinton.
Steiger, Jacob, Fremont.
Stickney, J. S., Wauwatosa.
Stone, I. N., Ft. Atkinson.
Suydam, J. V., Green Bay.
Tarrant, Henry, Janesville.
Thompson, H. M., St. Francis.
Toole, Wm., North Freedom,
Tigot, G. W., Weyauwega.
Tuttle, A. C., Baraboo.
Tuttle, H. B., Baraboo.
Trelease, Wm., St. Louis, Mo.
True, J. M., Baraboo.
Tuttle, A. G., Baraboo.
Vandervelde, J. A., 31 Morrison St., Grand Rapids, Mich.
Vaughan, J. C., Chicago, Ill., 42 La Salle St.
Wakefield, J. Fremont.
Warren, A. A., Green Bay.
Wilson, R. D., Platteville.
Wheeler, A., Waukesha.
West, J. R., Evansville.
Wilcox, E., Trempealeau.
Williams, Daniel, Summitt.
Wilson, Wm., Weyauwega.
Willis, G. M., Clinton.
Witt, Luther, Plymouth.
Wood, J. W., Baraboo.
Woods, Wm., Weyauwega.
Wrightman, E. W., Weyauwega.
Young, D. S., Monroe.

HONORARY MEMBERS.

LIFE.

Dr. Joseph Hobbins, F. C. S., Corresponding Member Royal Hort. Soc., etc., ex-President, Madison.
O. S. Willey, ex-Recording Secretary.
Wm. Trelease, ex-Recording Secretary, St. Louis.
Geo. J. Kellogg, Janesville.
F. W. Case, ex-Recording Secretary, Madison.
Peter M. Gideon, Excelsior, Minn.
B. F. Adams, Madison.
T. K. Phœnix, Delavan.
Chas. W. Garfield, Grand Rapids, Mich.

ANNUAL.

J. S. Harris, La Crescent, Minn.
Mrs. Ida E. Tilson, West Salem.
C. G. Hatten, Charles City, Iowa.
D. M. Watrous, Iowa.
J. V. Cotta, Nursery, Ill.
Prof. T. J. Burrill, Champaign, Ill.
H. E. Van Diemon, Geneva, Ill.
Prof. A. J. Cook, Lansing, Mich.
Mrs. Alma Collins Hollister, Waukesha.
Mrs. David Huntley, Appleton.

FRUIT LIST.

APPLES.*

Seven varieties best adapted to Wisconsin — Hardiness, Productiveness and Quality taken into consideration — Duchess, Wealthy, Fameuse, Tallman Sweet, Wolf River, McMahan's White, Yellow Transparent.

Additional list for special locations — Tetofski, Red Astrachan, St. Lawrence, Fall Orange, Fall Spitzenberg, Alexander, Utter, Westfield Seek-No-Further, Willow Twig, Golden Russet, Walbridge, Orange Winter, Pewaukee, Haas, Longfield, Clark's Orange.

For trial on sandy soil — Duchess, Fall Spitzenberg.

CRAB APPLES.

For general cultivation — Whitney's No. 20, Gibb, Hyslop, Sweet Russet, Transcendent.

STRAWBERRIES.

For general cultivation — Wilson, Cresent, Downing, Windsor Chief (Pistillate), and Manchester (Pistillate).

Special list for light soils — Crescent, Wilson, Downer, Manchester (Pistillate).

GRAPES.

For general cultivation — Moore's Early, Warden, Concord, Delaware, Brighton.

For frosty and otherwise unfavorable locations — Janesville, Champion.

---

*Note. — The question of adaptation of varieties is one so largely dependent upon local conditions of soil, elevation and aspect, that a general list will not answer fully the wants of every planter, and at best can only be a general guide in the selection of varieties.

For more specific directions, the following rules are furnished by the committee chosen for this purpose:

1. Locations comparatively elevated and well drained, with a cool northern aspect and limestone clay soil, not very rich, may extend the general list named above to an indefinite extent, with fair prospect of success in southern and eastern districts of the state. But for warm, sheltered location and rich soils, which induce a great growth, no section of our state can safely plant other than those varieties known to be extremely hardy.

2. The best guide in the selection of varieties is for each to plant largely of such varieties as are found successful in locations similar to that each must plant upon. For all unfavorable locations, and extreme northern districts, only the most hardy, well tried apples of the Russian or Siberian types should be chosen for general planting.

3. In the extreme northern districts, only the crown of the hills should be chosen for the orchard, with a firm soil and porous subsoil, and if their materials are wanting naturally they should be supplied artificially.

4. Better plant but few varieties.

BLACK RASPBERRIES.

For general cultivation — Gregg, Ohio, Souhegan, Tyler (early).

RED RASPBERRIES.

For general cultivation — Cuthbert, Turner, Brandywine.
For trial — Shaffer's Colossal.

BLACKBERRIES.

For general cultivation — Snyder, Stone's Hardy, Ancient Briton. (Winter protection is recommended for all.)
For trial — Taylor, Bartel's Dewberry.

PEARS.

Most likely to succeed — Flemish, Beauty.
For trial in the lake shore regions — Ananas d'Été, Early Bergamot, Bartlett, Onondaga (Swan's Orange), Seckel, Winter, Nélis, Clapp's Favorite, Beurré d'Anjou, Doyenné d'Été.

PLUMS.

For general cultivation — De Sota.
For special localities — Lombard, Imperial Gage, Yellow Gage (*Magnum Honum*), Eldridge, Duane's Purple.
For trial — Cheney (on recommendation of J. S. Harris).

CHERRIES.

For general cultivation — Kentish (*Early Richmond*), Late Kentish, Morello.

CURRANTS.

Red Dutch, White Grape, Victoria.

GOOSEBERRIES.

Houghton, Downing, American, Chester.

TREES AND SHRUBS RECOMMENDED.

EVERGREENS.

For General Planting—in order named: White Pine, Norway Spruce, Red or Norway Pine, White Spruce, Arbor Vitæ, Balsam Fir, Austrian Pine, Scotch Pine.

For Ornamental Planting—in order named: Hemlock, Red Cedar, Siberian Arborvi æ, Dwarf Pine.

DECIDUOUS TREES.

For Timber — White Ash, Black Cherry, Wild Black Walnut, Hickory, Butternut, White Oak, European Larch, American Larch.

Street Shade Trees — White Elm, Hard Maple, Basswood or Linden, Ashleaf Maple (*Acer Negundo*), Norway Maple, Hocklurry.

For Lawn Planting—Weeping Cut-leaved Birch, American Mountain Ash, Green Ash, Horse Chestnut, European Mountain Ash, Wisconsin Weeping Willow, Oak-leaved Mountain Ash, Canoe Birch, Weeping Golden-barked Ash, Weeping Mountain Ash, Weeping Poplar.

ORNAMENTAL SHRUBS.

Hardy Shrubs — Snowball, Syringa, Upright Honeysuckle, European Strawberry Tree, Fringe or Smoke Tree, Purple-leaved Barberry; Lilac, White, Purple and Persian; Black Alder.

Half Hardy Shrubs — Deutria (*Gracales*), Wegelia (*Rosea*), Flowering Almond, red and white; Spereas, Prunifolia and others, Flowering Quince, Cut-leaved Sumac, Hydrangraa Grandiflora.

Climbers — American Ivy (*Ampelopsis quinquefolia*), Scarlet Honeysuckle (*Lonicera sempervirens*), Fragrant Honeysuckle (*Lonicera caprifolium*), *Clematis jackmanni*, Virgin's Bower, (*Clematis virginiana*) Climbing Biiter Sweet.

ROSES (with protection).

Climbers—Queen of the Prairie, Gem of the Prairie, Baltimore Belle.

Moss Roses — Princess Adelaide, Luxembourg and others.

Hybrid and June Roses — Persian, Yellow Harrison, Madam Plantier, General Jacqueminot, La France, General Washington.

ACT OF REORGANIZATION.

OF THE

STATE HORTICULTURAL SOCIETY.

CHAPTER 151, LAWS OF 1879, AS AMENDED BY CHAPTER 14, LAWS OF 1887.

SECTION 1. The executive committee of the Wisconsin State Horticultural Society shall hereafter consist of the president, secretary and treasurer of said society, and of one member from each congressional district of the state, said members from the congressional districts to be chosen annually by the county and local horticultural societies in the respective districts.

SECTION 2. The present officers and executive committee of said society shall hold their respective offices until the Tuesday next succeeding the first Monday in February, 1880, and until their successors are appointed.

SECTION 3. It shall be the duty of the said society to aid in the formation and maintenance of county and local horticultural societies, to promote the horticultural interests of the state by the holding of meetings for discussion; by the collection and dissemination of valuable information in regard to the cultivation of fruits, flowers and trees adapted to our soil and climate, and in every proper way to advance the fruit and tree growing interests of the state.

SECTION 4. The annual meeting of the society for the election of its officers, the transaction of general business, and the consideration of questions pertaining to horticulture, shall be held at such time and place as may be determined at the last preceding annual meeting. In case of the failure of such meeting to so determine, the executive board may call such meeting by giving at least thirty days' notice to each member of the society.

SECTION 5. All vacancies in the offices of said society may be filled by the executive committee; and should there be a failure to elect a member of the executive committee in any district, the vacancy may be filled by a two-thirds vote of the members of the society present at any regularly appointed meeting.

SECTION 6. It shall be the duty of the secretary of said society to make an annual report to the governor of the state of the transactions of the society, including an itemized account of all moneys expended during the

year, in addition to such matters as are now specified in the law relating to the same.

SECTION 7. The number of printed pages of said report shall not exceed three hundred and fifty, and the number of copies shall be limited to three thousand five hundred. In all other respects the publication and distribution of said report shall be in accordance with the provisions of law now in force concerning the same.

SECTION 8. The sum of $600 is hereby appropriated out of any money in the state treasury not otherwise appropriated, to aid the said society in carrying out the provisions of this act; said sum to be paid by the state treasurer upon the order of the president of said society, in such sums and at such times as shall best contribute to the prosperity of the society and the interest it represents.

SECTION 9. This act shall take effect and be in force from and after its passage and publication.

Approved March 1, 1879.

CONSTITUTION AND BY-LAWS.

As Amended February, 1887.

CONSTITUTION.

ARTICLE I. This society shall be known as the Wisconsin State Horticultural Society.

ARTICLE II. Its object shall be the advancement of the art and science of horticulture throughout the state.

ARTICLE III. Its members shall consist of *annual* members, paying an annual fee of one dollar, which shall entitle the wife of such member to the privileges of full membership; of secretaries of local horticultural societies reporting to the state society, who shall be considered members *ex-officio*; of *life* members, paying a fee of ten dollars at one time; of *honorary life* members, who shall be distinguished for merit in horticultural and kindred sciences, or who shall confer any particular benefit upon the society; and *honorary annual* members, who may, by vote, be invited to participate in the procedings of the society.

ARTICLE IV. Its officers shall consist of a President, Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, Superintendent, and an Executive Board, consisting of the foregoing officers and additional members, one from each congressional district of the state, five of whom shall constitute a quorum at any of its meetings. In addition to the foregoing officers, the presidents of all local horticultural societies reporting to this society shall be deemed honorary members and *ex-officio* vice-presidents of this society. All officers shall be elected by ballot, and shall hold their office for one year thereafter, and until their successors are elected; provided, the additional executive members may be elected by the county or local horticultural societies of their respective districts.

ARTICLE V. The society shall hold its annual meeting for the election of officers, at such time and place as may be determined at the last preceding annual meeting. In case of the failure of such meeting to so determine, the executive board may call such meeting by giving at least thirty days' notice to each member of the society. It may also hold a meeting in December of each year, at such place and time as may be decided upon by the society, or the executive committee for the exhibition of fruit and for discussions, and such other meetings for discussions and

exhibitions as the executive committee may direct, at such time and place as the executive board shall designate.

Article VI. This constitution, with the accompanying by-laws, may be amended at any regular meeting, by a two-third vote of the members present.

BY-LAWS.

I. The president shall preside at meetings, and with the advice of the recording secretary, call all meetings of the society, and have general supervision of the affairs of the society, and shall deliver an annual address upon some subject connected with horticulture.

II. The vice-president shall act in the absence or disability of the president, and perform the duties of the chief officer.

III. The secretary shall attend to all the correspondence, shall record the proceedings of the society, preserve all papers belonging to the same, and superintend the publication of its reports. He shall also present a detailed report of the affairs of the society, at its annual meeting. He shall also endeavor to secure reports from the various committees, and from local societies, of the condition and progress of horticulture in the various districts of the state, and report the same to the society. It shall be the duty of the secretary to make an annual report to the governor of the state, of the transactions of the society, according to the provisions of the statutes for state reports.

IV. The treasurer shall keep an account of all moneys belonging to the society, and disburse the same on the written order of the president, countersigned by the secretary, and shall make an annual report of the receipts and disbursements, and furnish the secretary with a copy of the same, on or before the first day of the annual meeting. The treasurer elect shall, before entering upon the discharge of the duties of his office give good and sufficient bonds, for the faithful performance of his duties, subject to the approval of the executive committee.

V. The executive board may, subject to the approval of the society, manage all its affairs and fill vacancies in the board of officers; three of their number, as designated by the president, shall constitute a finance committee.

VI. It shall be the duty of the finance committee to settle with the treasurer, and to examine and report upon all the bills or claims against the society which may have been presented and referred to them.

VII. The standing committees of this society shall be as follows: 1st. Committee on Finance, consisting of three members; 2d. Committee on Nomenclature and New Fruits, consisting of three members. 3d. Committee on Observation, as now provided. Said committees to be appointed annually by the executive committee of the society.

LAWS RELATING TO THE SOCIETY.

Chapter 151, *Laws of* 1879.

SECTION 6. It shall be the duty of the secretary of said society to make an annual report to the governor of the state of the transactions of the society, including an itemized account of the moneys expended during the year, in addition to such matters as are now specified in the law relating to the same.

SECTION 7. The number of printed pages of said report shall not exceed three hundred and fifty, and the number of copies shall be limited to three thousand five hundred. In all other respects, the publication and distribution of said report shall be in accordance with the provisions of the law now in force concerning the same.—[*Revised Statutes*, 1858.]

Chapter 320, *Laws of* 1883.

SECTION 7. There shall be printed annually by the state printer, and on the order of the commissioners of public printing, the following documents. * * * * * * * * * *

2. Twelve thousand copies of the transactions of the Wisconsin State Horticultural Society, together with such abstracts of reports of county and other horticultural societies, and such other matters pertaining to fruit growing and other horticultural interests of the state as shall be deemed important; provided, the number of pages shall not exceed two hundred. * * * * * * * * *

SECTION 8. Eleven thousand five hundred volumes of said report shall be bound in cloth, uniform in style with volumes previously published, each volume to contain one copy of each of the reports designated in the preceding section, and shall be destributed as follows: Thirty copies to each member of the legislature; one hundred copies to the State Historical Society; twenty-five copies to each county agricultural society and district industrial association which embraces two or more counties and furnishes the State Agricultural Society a report of its proceedings; one hundred copies to the State Horticultural Society; twenty-five copies to each county horticultural society that shall report its organization, with officers elect, and give an abstract of its proceedings for publication in said volume to the secretary of the State Horticultural Society; one hundred copies to the State Dairymen's Association; fifty copies to the State University; five copies to the Wisconsin Humane Society; two copies to each public library in the state; and the remaining copies to the State Agricultural Society for distribution by its secretary.

SECTION 9. Five hundred copies of the transactions of the State Agricultural Society, and five hundred copies of the transactions of the State Horticultural Society, shall be bound singly, in cloth; five hundred copies

of the transactions of the State Dairymen's Association, and five hundred copies of the report of the department of agriculture of the state University shall be bound in paper, for the use of these several societies and departments for distribution or exchange.

Chapter 435, *Laws of* 1885.

SECTION 7. 2. Sixteen thousand five hundred copies of the transactions of the Wisconsin State Horticultural Society, together with such abstracts of reports of county and other horticultural societies, and such other matters pertaining to fruit growing and other horticultural interests of the state as shall be deemed important; *provided*, the number of pages shal not exceed three hundred. * * * * * *

SECTION 8. Thirteen thousand volumes of said report shall be bound in cloth, uniform in style with volumes previous published, each volume to contain such part of one copy of each of the reports designated in the preceding section, as the compiler shall select, the size of said joint report not to exceed one thousand pages; and shall be distributed as follows: Thirty copies to each member of the legislature; one hundred copies to the State Horticultural Society; twenty-five copies to each county agricultural society and district industrial association which embraces two or more counties, and furnishes the State Agricultural Society a report of its proceedings; one hundred copies to the State Horticultural Society; thirty copies to each county horticultural society; two hundred copies to the State Dairymen's Association; one hundred copies to the experiment station of the State University; twenty-five copies to the library of the State University; five copies to the Wisconsin Humane Society. To the governor, lieutenant-governor, secretary of state, state treasurer, attorney general, state superintendent of public instruction, railroad and insurance commissioners twenty-five copies each; to each public library in the state two copies; and the remaining copies to the State Agricultural Society for distribution by its secretary.

SECTION 9. Twenty-five hundred copies of the transactions of the State Horticultural Society shall be bound singly in cloth and one thousand in paper. Twenty-five hundred copies of the State Dairymen's Association shall be bound in cloth and twenty-five hundred in paper. Twenty-five hundred copies of the report of the Agricultural Experiment Station of the State University shall be bound in cloth and twenty-five hundred in paper for the use of these several societies and departments for distribution or exchange.

CHAPTER 36, LAWS OF 1885.

To appropriate to the Wisconsin State Horticultural Society a sum of money.

SECTION 1. There is hereby appropriated to the Wisconsin State Horticultural Society the sum of two thousand dollars, out of any money in the

state treasury not otherwise appropriated. This appropriation is made to cover the years of 1885 and 1886, and shall be paid to said society in two annual equal payments, viz.: in 1885 and 1886.

SECTION 2. This act shall take effect and be in force from and after its passage and publication.

Published April 10, 1885.

LAW RELATING TO TREE BELTS.

Revised Statutes, 1878.

SECTION 1469. Every owner or possessor of five acres of land, or more, who shall successfully grow by planting with forest trees, consisting of the following kinds, or such species thereof as will grow to the height of fifty feet or more, viz.: arbor vitæ, ash, balsam, fir, basswood, beech, birch, butternut, cedar, black, cherry, chestnut, coffee tree, cucumber tree, elm, hackberry, hemlock, hickory, larch, locust, maple, oak, pine, spruce, tulip tree and walnut tree belts in the manner and form prescribed in the next section, shall be entitled to have the land on which such tree belts grow until they shall reach the height of twelve feet, and after they have attained that height to receive an annual bounty of two dollars per acre for each acre so grown.

SECTION 1470. Such tree belts shall be planted on the west or south sides of each tract of land, to be of uniform width through their entire length, contain not less than eight trees, at nearly equi-distance, on each square rod of land, and be at least thirty feet wide for each five acre tract, sixty feet wide for each ten acre tract, and one hundred feet wide for each square forty acre tract, and upon all square tracts of land, upon two sides thereof. All tree belts owned by the same land owner must be planted not to exceed a fourth of a mile apart, and on the west and south sides of every square forty acres, and shall not exceed one-fifth of the entire tract of land on which the same are planted; provided, that when the east and north sides, or either, of any tract of land is bounded by a public highway, a tree belt one rod wide may be planted next to said highway, although it, with the others on the west and south sides, shall exceed one-fifth of the whole tract; and tree belts may be planted on any other lines within each forty square acres, by permission of the assessor.

SECTION 1471. The assessor shall, upon the application of the owner thereof, in each year, at the time of assessing the personal property in his district, make a personal examination of all tree belts for which bounty or exemption from taxation is claimed, and ascertain whether they have been planted as required in the preceding section, and are thriftily growing, and if he shall be satisfied thereof he shall not assess the same for taxation unless the trees therein shall have attained the height of twelve feet, and in that case he shall deliver to the owner a certificate that he is

entitled to an annual bounty of two dollars for each acre of such tree belts, stating therein the whole amount of such bounty, and giving a description of the entire land of which the tree belts form a part, and the amount of such bounty shall be credited by the treasurer in payment of any taxes assessed on such land as so much cash; but if not so satisfied, the assessor shall assess the land for taxes or refuse to grant any certificate for the bounty, as the case may require; and if, after any certificate for such bounty shall have been issued, the owner of any such tree belts shall suffer the same to die out by want of cultivation or otherwise, or shall cut the same down, or in any other way allow the same to be so thinned out, that in the opinion of the assessor he ought no longer to receive such bounty, he shall give the treasurer written notice thereof, and thereafter no further bounty shall be allowed until such owner shall again receive a certificate therefor.

TO REGULATE THE SALE OF CRANBERRIES.

Chapter 384, *Laws of* 1885.

SECTION 1. The legal and standard cranberry barrel in this state shall be twenty-three and three-quarters inches high, sixteen and one-fourth inches in diameter at the head, and eighteen inches in diameter at the bridge inside measure. Every manufacturer of barrels for cranberries shall stamp or brand his name with the letters W. S. on such barrels to indicate that they are Wisconsin in standard in size. All sales of cranberries in packages less than a barrel shall be by the bushel or quart, struck or level dry measure. A standard bushel crate for cranberries shall be twenty-two inches long, twelve and one-fourth inches wide by seven and one-half inches deep, inside measure.

SECTION 2. Any person who shall in such manner stamp or brand cranberry barrels of a less capacity than is provided in the first section of this act, shall be guilty of a misdemeanor, and upon conviction shall be fined in a sum not less than five nor more than twenty-five dollars and costs of suit, and may be committed to jail until such fine and costs are paid. Any person selling cranberries in barrels thus branded, of less capacity than herein provided, shall be liable to the purchaser in damages to three times the amount of such shortage, and all contracts or agreements for the sale of cranberries by the barrel or crate, unless otherwise especially stipulated shall be understood and construed to mean legal standard barrels or crates.

PREMIUMS AWARDED AT THE SUMMER MEETING AT JANESVILLE.

Best display cut flowers.....Miss Edith Kellogg, Janesville
Second best.....O. P. Freeborn, Milton
Best display pansies.....O. P. Freeborn, Milton
Best floral design.....Walter Helms, Janesville
Best display ferns.....Walter Helms, Janesville
Best display roses.....Miss Edith Kellogg, Janesville
Second best.....Mrs. Frank Lawrence, Janesville
Best boquet roses.....T. M. Towne, Ft. Atkinson
Best display house plants.....Walter Helms, Janesville
Second best.....O. P. Freeborn, Milton
Best display verbenas.....O. P. Freeborn, Milton
Best display five named varieties roses.....Edith Kellogg, Janesville
Best plate Willow Twig.....G. J. Kellogg, Janesville
Second best.....G. Jeffery, Milwaukee
Best plate Golden Russets.....G. Jeffery, Milwaukee
Best new seedling.....G. Jeffery, Milwaukee
Best display strawberries, varieties not less than 10. G. J. Kellogg, Janesville
Second best.....J. C. Plumb, Milton
Best display strawberries of five varieties.....G. J. Kellogg, Janesville
Second best.....J. C. Plumb, Milton
Best quart cresent.....J. B. Smith, Clinton
Second best.....J. W. Hausche, Racine
Best quart Manchester.....J. G. Williams, Janesville
Second best.....G. J. Kellogg, Janesville
Best quart Wilson.....J. B. Smith, Clinton
Second best.....J. G. Williams, Janesville
Best quart Miner's Prolific.....J. W. Hausche, Racine
Second best.....G. J. Kellogg, Janesville
Best quart Chas. Downing.....J. W. Hausche, Racine
Best quart of Longfellow.....J. W. Hausche, Racine
Second best.....J. C. Plumb, Milton
Best plate Windsor Chief.....G. J. Kellogg, Janesville
Second best.....J. W. Hausche, Racine
Best quart Sharpless.....J. P. Plummer, ——
Second best.....B. Spence, Janesville

Best quart Cumberland Triumph..... .....J. W. Hausche, Racine
Second best .....J. C. Plumb, Milton
Best quart Prince of Berries .....G. J. Kellogg, Janesville
Best quart Seneca Queen ..... G. J. Kellogg, Janesville
Best quart Atlantic.....G. J. Kellogg, Janesville
Best quart Parry.....G. J. Kellogg, Janesville
Best quart Cornelia.....G. J. Kellogg, Janesville
Best quart Old Iron Clad..... ...J. C. Plumb, Milton
Second best..... G. J. Kellogg, Janesville
Best quart Piper's Seedling.....J. C. Plumb, Milton
Second best.....G. J. Kellogg, Janesville
Best quart, any variety, quality considered, Jessie,
F. W. London, Janesville
Second best, Mrs. Garfield.....G. J. Kellogg, Janesville
Best quart, any variety, size considered, Jessie.. F. W. London, Janesville
Best quart Captain Jack .....J. B. Smith, Clinton
J. C. Plumb received honorable mention for the following varieties not in the premium list.

James Vick.
Mount Vernon.
Boyden.
Glendale.
Bidwell.
Green's Prolific.
Phelps.

Best display seedling strawberries.....F. W. London, Janesville
Best display seedling, originated in state .....F. W. London, Janesville
Best peck peas.....S. L. Miller, Janesville
Best display vegetables, all kinds .....J. M. Smith, Green Bay
Best bunch asparagus.....J. M. Smith, Green Bay
Best bunch onions.....J. M. Smith, Green Bay

Committee on Flowers — Mrs. C. A. Willard, C. A. Willard, Mrs. Vie H. Campbell.

Committee on Strawberries and Apples — A. J. Phillips, Mrs. Vie H. Campbell, N. N. Palmer.

Committee on Vegetables — A. J. Phillips, N. N. Palmer.

TRANSACTIONS

AT THE

SUMMER MEETING

HELD BY THE

Wisconsin State Horticultural Society,

At Janesville, June 16–18, 1886.

JANESVILLE, Wis., June 16, 1886.

The convention was called to order in Lappin's Hall, at 11 o'clock by President J. M. Smith. Pres. Smith made the following remarks:

Ladies and Gentlemen:— According to our programme, we are a little behind time in opening, as we very often are at the commencement of our summer conventions, but at 10 o'clock the hall was not quite ready. The commencement of the programme is an address of welcome by our friend G. J. Kellogg. He has done all in his power to assure a pleasant place of meeting, in which efforts he has been most ably seconded by his daughter.

Mr. Kellogg said:

Mr. President, Ladies and Gentlemen, Friends of the Horticultural Society:— I expected we would have about a dozen at the opening of this meeting. If we had been on time in opening we should have had just thirteen here. It was a mistake to put me on the programme. Mr. Adams' put me on and now he dare not come down. Right behind the flag hanging there is the word "Welcome." We could not arrange the flag without covering it up. We bid you a

cordial welcome to our hearts, homes and strawberry patches. The great point of attraction for which we have invited you here is to view the wonderful success of Mr. Loudon's seedling strawberries, particularly the Jessie. He has growing on his grounds from 100 to 150 of these seedling strawberries. We are to go over there this afternoon and we expect to have a good time. We have with us delegates from all over the state. Mr. Adams, though not here, has done his part towards booming this convention in many parts of the state. Every member of the Horticultural Society has been notified of the meeting and has had a programme and premium list sent to him. Because of the early hour of opening we have but a few members present. We expect to increase the membership of the state society about thirty or perhaps forty. There is one thing very unfortunate in connection with this exhibition of fruits. We have experienced the most extensive droughts ever known in the growing of strawberries. We have had only three or four showers during the season. On account of the drought the exhibition is very meager to to what it would have been in other seasons. You must make due allowance for the bad season. We had hoped for fruit from the northern part of the state. The best berries are now gone from many of our grounds. Still, in the name of Janesville and of our Horticultural Society, I bid you welcome. I hope this meeting will be fraught with interest and that the discusions and the knowledge disseminated will do us much good, as, also, the volumes we expect to give to every new member. We expect to give the past two years' volumes and the present volume, which has just been sent by Mr. Adams for distribution. We never had the report so early before but once. I intended to just get up here and point out that word "Welcome" without saying a word and it would have been the most eloquent speech I ever made.

President Smith — *Ladies and Gentlemen:* Upon our programme the next thing after the address of welcome is the response by the president. If Mr. Adams had been here I should have insisted upon his taking my place at that, as

he is so ready and eloquent a speaker. But as he is not here I will say a few words and in reply to Mr. Kellogg, I can only say, that we thank you for your efforts to make this convention pleasant, and for your kind words, coming as they do from one of the most constant workers this society has ever had, one who always means what he says and says what he means; but some of you do not know how hard he has worked to make this room so pleasant as it now is. It used to be a common thing, more common in ancient times than now, when the watchman upon the walls of the city came around, for citizens to call out: "Watchman, what of the night?" In times of peace the response was always: "All is well." We horticulturists cannot reply that "all is well," but we can reply safely and surely, that we are working towards a point where all is well. In some things the progress is rapid. Horticulture has been satisfactory and successful in all parts of the state. There is no state in the northwest and none east of the Rocky Mountains, that can be said to have been more successful in raising small fruits. Strawberries, raspberries, grapas, all do remarkably well in our state wherever they have a fair chance. I remember of hearing a gentleman a few years since, in speaking of small fruits, while passing a store where there was a very fine lot of Delaware grapes, ask a man: "Where were those grapes grown?" He said: "By a farmer some few miles from here." The gentleman said: "I asked for information and and not to be fooled with." The brother of the man who had first replied, then said: "I work for the man and know that these grapes were grown here." "Why," said the gentleman, "I never saw finer Delaware grapes than these here. I am a Californian and I never saw nicer grapes than these." I mention this to show that in the northern part of the state we can raise grapes, and so all over the state. We all know that the Great Architect of the Universe has made laws in regard to fruit growing that are invariable. If we comply with these laws success is almost certain; if we break them failure is almost as certain. One of the members said to me, not long since: "We are in the

fruit region, not out of it." This seems strange in view of the recent failures. But my friends, we must be ourselves in connection with the laws of nature. If we break these laws we shall fail. The law is inevitable. Last winter when I covered my vines, I never saw such a fine showing for fruit. Early in the spring some of my drains got filled up and as a result the water stood in some places on the bed and when I got the water off the plants were dead. The law, you know, is invariable — you must not allow water to stand on plants. I did so and lost my berries. It applies equally to apples as well as to strawberries. Differences in soil, situation and temperature have made it impossible for us to grow the same varieties that are grown in the east. We must learn the laws of nature, and, we are learning to believe, we shall in a short time get varieties that will accomodate themselves to soil and situation in this state. By so doing we shall certainly make a success of apple growing — as much of a success as we have made in smaller fruits. I do not want to take up your time in regretting failures, but to all the friends here, I will repeat the words, "Thank you for your kind welcome to us."

President Smith now spoke of his correspondence with certain parties with reference to the collection of the premiums awarded at the New Orleans Exhibition, to the exhibit of the Wisconsin Horticultural Society. He stated that he had received an offer to collect the premiums awarded for fifty per cent. of the amount involved. He said: "As some of you are aware, there was a rule that ruled us out as a society from all the premiums, but one or two; I withdrew the list and entered them in my own name and some of them, I think, in Mr. Peffer's, they belong to the society, and will be paid to the society. The premiums that appear in my name belong in reality to the society. In reply to one of my letters with reference to this matter I received an answer saying in substance: "If you will accept, I will send you fifty per cent. of the premiums awarded you." I will state a little further that it would be necessary for you to send him a power of attorney, in order that he could collect these premiums, and it is barely possi-

ble that the man might get the money and not pay it over but it is fair to suppose that he will pay it, and I understand that he is paying large amounts in that way. He is an ex-mayor of New Orleans, was mayor when we held our Mississippi Valley Convention there, and I imagine if we give him a power of attorney the money will be paid.

Mr. Hoxie — Accepting your remarks as final, I move you that the offer be accepted.

Mr. Plumb — I would like to inquire if that proposition involves our advancing anything to him?

President Smith — It does not. We shall only have to send him a power of attorney which will cost perhaps twenty-five cents.

Mr. Tuttle — It is far better than I ever supposed it would be to hear of any such offer.

The question was now called for and the motion carried.

Mr. Hoxie — I have two or three communications that I should like to introduce at sometime during the session. Perhaps some of you are aware that there might be a prospect for a bill in congress whereby this state might be allotted a sum to be used in experimental work. I was instructed by the other members of the committee of your society having this matter in charge to open correspondence with members of congress, in regard to this matter. I wrote to Governor Rusk but he could give me nothing satisfactory. I also wrote to Mr. Caswell, the member of congress from the first district. His letter is short and I will read it now. (Reads Mr. Caswell's letter.) That is about all there is of that matter. I wrote to Professor Budd sometime ago and I mentioned this in connection with other matters I was writing about. He replies that he has but little faith in that. Last night I received a letter from Mr. Adams saying he could not be here owing to press of work; he hopes that myself and this shorthand reporter can do all the work. That is about the substance of his letter. I thought I had Professor Budd's letter but I do not seem to find it now. Here is a letter from the secretary of the Minnesota Horticultural Society. I wrote some time ago to Mr. Gideon, I also wrote to the Massachusetts Society and

have the reports of their work for three years. This is a letter from the Minnesota Society. (Reads letter.) The letter from Professor Budd is very encouraging as to the way they are experimenting in Iowa, with artificial fertilizers; we of course expect to be benefited by the work in Iowa, and we want to try to do something to pay for this work either by appropriation or by work by the society. I believe there is a report to give as to what we have started to do.

President Smith — Gentlemen, in connection with this matter spoken of by Mr. Hoxie, I would say that I have written to a number of members of congress with whom I am acquainted, and have received very encouraging reports with regard to a bill being passed. But they say that other appropriations are likely to be very large indeed, this year, and so I am afraid our horticultural appropriations will have to go by the board.

Mr. Tuttle — I am not in favor of having appropriations for experimental work from congress. I believe we may have this work done at a very small cost. Minnesota is so doing and I can see no reason why Wisconsin cannot do some work by itself. My idea would be to establish experiment stations in different parts of the state, upon different soils and in places that have been considered good for fruit and also in places where it has hitherto been difficult to grow fruit. And have persons appointed and let them make their experiments, and let persons forward things to be experimented with to these stations, and let these go on all over the state, on all kinds of soil, and let them go through a number of years so we shall know that when we plant a variety we shall not have to dig it up in a few years. We have planted trees that have not been worth anything. I planted 500 Pewaukees that are not worth anything. As for that work is concerned, in my own locality, on the kind of soil I have, I am perfectly willing to make a trial of fruits that should be forwarded to me; I am perfectly willing to make the trials.

President Smith — What would be the objection to having the expense of these trials paid by congress?

Mr. Tuttle — I think there is no objection to it, but we should not wait for it. I think experiments should be commenced immediately. If a person has a fruit he wants tested let him send it there. We have been recommending fruits that will only do for a single location.

Mr. Hoxie — It may be very well and is a good plan, if every one of the members of this society were situated so he could afford to give the time to this work that Mr. Tuttle can. But it costs something to do this work, and experiments to be of any value must be conducted with understanding. If a man wants to grow ten thousand bushels of corn or potatoes, he ought to know how to do it. And it is so in growing fruit. If we cannot get an appropriation from congress it would all be very well. I have been requested to lay the matter before the board of regents, and see if we can get anything from them. It was expected and hoped that Mr. Adams could spend time when the board meets there, to talk this matter up before them. I believe now a little work has been mapped out in the way of experiments with strawberries this year, and that is the extent of it. I do not believe there are half a dozen men in the state that would be willing to give a plant the care that is necessary. I know I have been a member of this society for fifteen years, and I know this society has put out lists of all kinds, and many of them have failed. You all know that. Now Mr. Tuttle is not able to test all these varieties. We are invited, as Mr. Kellogg says, to see Mr. Loudon's strawberry varieties, one hundred to one hundred and fifty of them, mainly his own. Now if Mr. Loudon had sent these out a year or two ago to different parties in the state, some one might have gone in and stole these and Mr. Loudon would have been out all his money. Now if these experiments had been conducted as they ought to be, he might be protected in what belongs to him.

Mr. Tuttle — When we talk about apples it is a different thing from strawberries and blackberries. It has been said that I have a favorable place to grow apples, but my orchard is nearly ruined.

Mr. Phillips — I think mine looks a little worse.

Mr. Tuttle — Well, I don't know. I thought I had a good orchard. The Fameuse are played out. They look worse than they did last year. I do not know of having seen any orchard on the road that I have come here on. I have seen none that begin to look like mine. I had five hundred Pewaukee trees and not one single one of them lived but what is and so with the whole list right through. Of six trees of hurt, the St. Lawrence I have five that are all right. The Duchess trees, of course, are all right. Now if there is any worse place than mine I would like to see it.

It was now proposed to open a discussion on currants, although Mr. Stickney was not yet present; Mr. Pilgrim said that Mr. Stickney would be here for the evening session or the next morning.

Mr. Hoxie — I think Mr. Pilgrim could tell us something about currants.

Mr. Pilgrim — Do you want me to tell you something about Mr. Stickney's currants? I have been through my section of the country this spring, in different localities and failed to find amongst the farmers in general, scarcely a currant bush remaining in the gardens. This spring in particular they were grubbed up, pulled up and burned up. They have given up raising currants. Our friend, Stickney, in place of giving up, is going right in and planting by wholesale. I would not dare to say how many he has on his premises in the village of Wauwatosa, but on his farm, four or five miles from the village, he has four or five acres of bushes of the Long Cluster, and so on. I never saw anythink look better than they are, and his bushes to home are loaded with fruit, and he is expecting a big harvest, now that is as far as I know. I heard Mr. Stickney making a remark about his Duchess orchard, say that he didn't think he had a sound tree in his orchard. We heard from Mr. Tuttle that this was his best. The tree is troubled by a bug or something else that gouges the apples.

Mr. Tuttle — The reason that he does not grow them is that in that locality he can grow something better.

Mr. Phillips — Can you tell us how he has succeeded in his currants, and by what means?

Mr. Pilgrim — He has dusted them over and over with hellebore. He has a watchful eye himself and has good help. He intends to set out there, ten acres of these currants—Long Hollands exclusively. One person said to me that the reason Stickney succeeded so well with this variety was that the currants, bushes and everything were too mean for the bugs to hurt. They are shipped to a Chicago firm every year and are shipped even further than there. They never bruise nor stain the boxes they are put in. They sell well. They are a good fruit in the market.

Mr. Plumb — I want to say a word against the Long Bunch Hollands. Their name is a misnomer, it has not a long bunch.

Mr. Pilgrim — I would like to correct the gentleman. Does the gentleman know what the soil is? We have bunches 5 and 7 inches long.

Mr. Plumb — Our bunches are only about three inches long. I would say a word in defense of the Holland currant. My wife says they make the best jelly of any currant we have ever grown, and currant jelly is the one thing above all others that currants are wanted for at our place. For this currant culture Mr. Pilgrim and Mr. Stickney, at Milwaukee county, have an entirely different soil and climatic conditions than we have in the center of the state. With us we have two or three that will hold their foliage until the fruit ripens, the White Crab, Perry, Red Dutch, and two others. The others all lose their foliage, and we do not know of any way to prevent it, whereas the Holland currant and the Versailles hold their foliage. The Fay's Prolific is too delicate. I was examining ours yesterday. They had fruit last year and the year before, and have a little this year, but under our system of culture Fay's Prolific cannot stand it. It is fully as large as the Perry.

Mr. Tuttle — I have seen a single specimen of the Fay's Prolific. It was the only specimen I have ever seen. Right beside it are growing the Red Dutch, and the Fay is doing better.

Mr. Plumb — Now, about this currant culture, it is not

the worm that we are afraid of; it is the blight. We have very little trouble with the worm. We grow the plants for commercial purposes. There are only these two or three varieties named that can be depended upon to hold their foliage right through.

Mr. Hoxie — I once heard of a farmer that raised sheep. He bought them when cheap and sold when dear. Friend Stickney is going upon that suggestion. There was a short article by him in the *Farmer*, suggesting a cure for the worm, but evidently covering a hope that the farmers would not adopt it, for he was raising currants himself. We thought a few years ago, that we could not raise potatoes, and would have to import them, on account of the potato bugs. If friend Stickney can raise Long Holland currants, we can do it too. If the currants are good enough to make jelly they are good enough for us, and I think farmers ought to raise what they can for jelly, if for nothing else.

Mr. Jeffery — I live a little way from Mr. Stickney and understand pretty well how he got the worm under control. I find that this Long Bunch Holland grows very nicely with me and I think it is a stronger grower with me than anything else. I have one dollar invested in the Fay's Prolific, but it don't get prolific with me so far. Whether I have got the true Fay or not I don't know; the currant is not so large and the bunch is not so long. The bush is four years old and this year will only have about a quart on it and not nearly as large as the Cherry. I have got more than twice as many on the Cherry bush and some would say that the old common kinds would have more. The Holland would have more than twice as many at the same age I think. The Fay currant is larger than the Holland but not as large as the Cherry. I have got some of the Red Dutch that seem to be doing well. I have a few bushes of the black variety which sell very well in Milwaukee, but do not seem to be in favor out here. English people love the black currant and they sell well. I am getting along with the worm by using hellebore water; using about two tablespoonfuls to a pail of water and applying it with a force pump. I put it on once or twice and do not think I shall

have to use it again. When farmers see that Mr. Stickney is doing so well they will go into it. I think they ought to get a force pump and use the hellebore.

Pres. Smith — It is about 12 o'clock and as we have some work to do this afternoon and it is expected that at 3 o'clock we shall go to view the grounds of Mr. Loudon, perhaps it would be just as well to adjourn and get together as promptly as possible and get the work done so as to view the grounds. This matter of currant culture can be taken up again if we wish to. I think that it would be well to take it up when Mr. Stickney is here as he is the most experienced currant grower in the state.

Recess until 1:30 P. M.

AFTERNOON SESSION.

WEDNESDAY, JUNE 16.

President Smith — The first thing on the programme for the afternoon was a discussion on "Ornamental Trees," led by J. C. Plumb.

Mr. Plumb — Is this to be an informal talk?

Mr. Hoxie — Make it formal as you can.

President Smith — We expect it to be a good sensible one.

Mr. Plumb — *Mr. President, Ladies and Gentlemen:*—I don't know that you will hear me back at the windows. The other day I asked a gentleman what he understood by an ornamental tree. He said: A tree that will adorn my yard I consider an ornamental tree. Well, I thought, that was pretty good. I next asked another gentleman. He says: A shade tree is an ornamental tree. A tree that does not shade me is not an ornamental tree. Another gentleman says: I want an ornamental tree that will not only shade but that will hide. Ornamental trees that are used to hide defects. I think I asked seven or eight during the day and got various answers. One gentleman says: An ornamental tree, that is a tree that is imported, it is not a native tree. I said, don't you consider the oak an ornamental tree? He said: I do not. It is only a shade tree. It seems to be a difficult thing to define an ornamental tree. When we

come to define it it means a great deal. It means not only a shade and shelter but it menns something that will fill up vacancies and hide defects. That answer that said an ornamental tree must be imported, I don't accept at all, because my experience has taught me that the best ornamental trees we have in this country are natives. So when we talk about ornamental trees and put them in our catalogues, we mean trees that will shelter and hide defects in outgrounds, so that they will give a background around buildings so that people passing by will see a background of beautiful trees sometimes placed there by nature and sometimes by man. They are all ornamental trees.

The next question that would occur is, What ornamental trees? Now this matter of the choice of ornamental trees has just as many sides to it as there are tastes, and situations and circumstances. One gentleman said to me this morning—I don't see him here present, I am sorry the gentleman is away. He says: "These elms are a failure." I said, Why? "O," he said, "the wind breaks them down." Well, they are in that sense pretty near a failure, for if the land is very rich, and if they have a strong hold, the violent winds are apt to break them down. I might as well answer to that, where the elm is liable to break down from any cause, from rapidity of growth or wrong structure it should be cut back. Well, said I, if the elm is a failure, what next? "Why, the sugar maple, the old tree of New England." Really that is my first choice, too. I was brought up in the shade of sugar maple trees that my fathers planted over a hundred years ago. But it is a slow tree. But the gentleman said: "Yes, but it is always pretty." Now I like a sugar maple tree because it is always pretty. It is a slow growing tree, but its leaf, when it falls, is a beautiful leaf, and it leaves a clean, handsome tree, handsome even in winter. The elm comes first, the generally accepted ornamental tree. The maple will come next. In many locations the white ash would be placed first. I know a gentleman in this city who would plant nothing but a white ash because white ash will grow where there is only six or eight inches of soil over sixty feet of gravel; and so where

other trees have failed the white ash has become an accepted tree and they want it. The next tree that I would name in the order would be the basswood, our common American linden. It has been a neglected tree, but it is a tree of great merit. Its foliage is beautiful, its flowers yield the richest of honey and it is a tree which I believe in coming years will be more appreciated than in the past. If you want to see some beautiful lindens, they are scattered in certain parts of this town but do not grow in other parts. Across the river we strike a limestone clay where they do better than on the gravel beds on this side of the river.

The next tree that I would name would be the catalpa. Speaking about the linden, another advantage it has is its being a broad leafed tree. But there is a clipping from the catalpa, what is called the hard catalpa. There is some talk of their being two varieties. There are no doubt two varieties. There are trees in this state that have never killed back a particle. This is a clipping taken from a tree, a seedling, two years ago. When it killed back last fall when frost came, the top of that tree was just as green as that you see there. [Pointing to the clipping.] The frost killed the top and these broad leaves, and before the winter set in, the wood had gradually ripened, but that stem was green half of its length, but it had ripened its wood until it had wintered without any protection, killing back that much. [Using the clipping.] The hard catalpa is going to come in and help us out on broad leafed trees. When we come to study this question, we find a need of broad leaf trees. I hope the time will come when we shall have sycamore trees that will endure this climate. Those that are familiar with the climate of the city of St. Louis, will know that the best known trees they have in that city are the buttonwood or sycamore trees. I have a tree of this catalpa that has been out for some ten or twelve years. It has a very conspicuous flower. [The flower of the catalpa was shown to the audience.] The flower is very fragrant. I want to say further, I am going on and extend the list. The native hackberry is a better tree than the elm. With very little cutting it is a perfect tree. The only trouble with the hackberry is that

we cannot get it. In the city of LaCrosse and Sparta the hackberry vies with the elm in beauty.

Mr. Palmer — What about the hickory ?

Mr. Plumb — I will speak about that in a moment, I want to make a special point of that. The butternut, mountain ash and walnut are all beautiful trees, but have defects. Poplars and willows are beautiful, but have defects also. We have no native willows that will succeed this far north except the weeping willows. All of the imported willows, such as you see coming from eastern nurseries, are a failure. I do not know of one in the state of Wisconsin that has survived over four or five years. Not because the top is not hardy, but because the stem which is used for the top is tender. The American mountain ash and the European ash is a hardy tree, but both have defects. You will ask why I have not spoken about the soft maple. There is one tree I want to speak about, and that is the birch. It is a very pretty tree, but the European white birch is a very much better tree. That variety stands at the head of all ornamental trees at the north. I am informed that from Boston to St. Paul, there is no tree that is as widely set as that tree. I cannot point to any in the city, although I think there are two or three in the city. It is a tree you will all want if you can get it. Of the European varieties there are none of them but what are a little delicate.

Now for the hickories and live oaks. I have spoken of trees that can be grown in nurseries and sold. There are trees that cannot be grown in that manner, these are the hickory and the live oak. The burr oak as some of you heard me say years ago, is the finest tree in America. It has peculiar qualities. It is a rustic tree, you can't take a little twig off from a burr oak tree but it is a curiosity. It is a tree that should be saved by all means. It is difficult to transplant. There is only one way to transplant a hickory when it is four or five years old and when taken out has just as much growth below ground as above ground, I found that when the trees were two years old we could dig down 1½ or 2 feet and cut the top root and the second year

after transplant it. It will form a few side roots. This is the best way to transplant forest trees, dig down and cut off the main roots, and in that way you will get side roots. I will not take up any more time.

Mr. Phillipps — I was going to say that if it is the programme of this meeting to go to Mr. Loudon's at three it only leaves ten minutes for both Tuttle and myself, and I think I had better give way to him. Well, in reference to this ornamental tree planting I don't exactly know why I was placed here. I never talked on this subject in my life and never thought on it but a little. The only reason I can give that Mr. Adams put me on this discussion is that he knows I like to be in good company; and being with Plumb and Tuttle I find I am there. It is a little different subject from what I expected. I hardly knew what an ornamental tree was. I started out to find a man that knew more about it than I did. I asked a man that had planted many ornamental trees, what he considered an ornamental tree. He said: A tree good for nothing but to look at. I made up my mind that about nine-tenths of the tree planting done in Wisconsin for the last ten years was of the ornamental kind. Our orchards are all ornamental plantations. I wondered what I would say here; I thought he would not take up birches, live oaks, hickories, etc., but he has given you a discussion of the whole subject; I want something that is ornamental and useful both, I find I have many ornamental apple trees and now I am taking a little different view.

As stated here this morning, we don't want to go contrary to nature in planting trees. If I can get a tree that will live five or six years, I will call it an ornamental tree. I heard a definition in Minnesota of an ornamental tree that I thought much of. Mr. Hedges, called the tree planter of the west, was there. His hobby was planting ornamental trees and forest trees to furnish shade. Having to read a paper at the Minnesota Society his main point was this, to examine the native forest and see what was doing well there and it was safe to set such trees out in that latitude. That was the point he tried to make in a whole hour.

After he got through questions were asked, and one man asked Mr. Hedges this question, "How far north he would consider it safe to plant the native walnut or butternut?" Hedges looked around with disgust and said, "I would go into the forest and find the tree and I would not plant it any further north than God Almighty intended it." That was a very good answer. You will find on the Missouri River growing there the box alder and the elm and the cottonwood and there I have only recommended to plant these three varieties. I don't think it necessary for me to say anything about varieties. Mr. Plumb has given you the names. One word about ornamental and useful trees. I shipped in a carload of spruce trees years ago and set many of them a rod or two apart where I intended to have a fence, and after that put in Whitney's No. 20, and where the 20 failed put in some other kinds, and I am planting most of my trees in that way now, in thick rows, and am now using that for fence posts. Some say people will go along and steal the fruit. Let them steal it. They are ornamental to the farm and they are useful. By keeping a lath protection around them one year I have very little trouble in keeping them. I presume there is not a man here this afternoon but has ornamental trees all around his premises and likes to see them.

I am like Mr. Plumb, I think a great deal of the hard maple. The people at Trempealeau had a cemetery that needed to be adorned. Mr. Wilcox, the old gentleman, said if the people would get up a festival and raise the money to put in ornamental trees he would furnish the trees. I told him that people would remember him longer by that than by anything else. Such a thing will perpetuate our memory better than any other act we can do. I guess I have taken my time and Mr. Tuttle's too.

Mr. Tuttle — I have very little to say on ornamental trees but I think if I had an interest out on the treeless plains of Colorado and Dakota, I should think most any tree was an ornamental tree. I always had a preference for the elm in the city. In fact I came from what is called the City of Elms. I think any tree that will compare with the elm is

an extraordinary tree. The maple has too close a shade. It ought to be trimmed out higher than it ever is. The beauty of the elm is that it goes up and you have the light. As maples are generally set they are trained too low. Now I had once hard maple trees standing close to the house and I had to cut them down. Of course the maple is an ornamental tree, and this hackberry that is grown in La Crosse is one of the very best of trees. I would prefer it to the maple. An ornamental tree depends upon what you want it for. If you have but a line you want a variety of trees. No one tree can produce the right kind of an effect. Then the soft maple ought never to be planted. I don't know what Lombardy poplars are planted for unless for the lightning to strike. Poplars planted in my city sometime ago are now being cut down. Elms planted at the same time are beautiful trees now. I never saw a tree that would compare with the elm. In the city of New Haven the elm trees form one of the most beautiful of sights. I would say that that I have seen a tree that was planted in New Haven over 200 years ago. The first minister there after Davenport the people agreed to build him a parsonage, and the whole colony came in to give something towards it. One man, the poorest man in the colony, had nothing to give but brought two elms and set them out in front of the house. After 200 years those elms are still standing while the offerings of all the rest have gone to decay. I never found any trouble with elms except the red elm. That will kill in the top. It should not be set as an ornamental tree. I know in early times I used to cut the red elm and I never could find one sixteen inches in diameter that was not dead in the top. I came to a man setting a red elm and I said, Why do you set that tree? I said, the top will become dead. The tree is there yet but it will not endure with the white elm. I have trees of the white elm that I set thirty years ago and I never knew of one being killed. I have seen trees with limbs broken off, but that could be avoided if trimmed when young. It cannot compare with the soft maple though in the breaking off of limbs. In New Haven where they have

set out elms they have set all elms. In our city there is no uniformity. Many of the trees after a few years are worthless. Every man who comes from the city of New Haven is proud of it, and because of its elms.

President Smith — Ladies and gentlemen, we must close this discussion and postpone our going to Mr. Loudon's on account of Professor Armsby who has to go to Madison to night.

Prof. Armsby — Ladies and gentlemen, the subject assigned to me by the secretary is a pretty broad one, and as he left me no special instructions, I suppose he left it to my discretion as to the branch I should take up. There are a great many things to be said about fertilizers; a great many ways in which they may be looked at. If I should take up too many things it would take too much time. I wish to give you a very short talk upon simply one aspect of the question, and that is the best way of buying them; and by fertilizers we mean those that are known as commercial fertilizers, those that are much more valuable than manures on the farm. Theseare not used, so far as I know, to any great extent in this state at present. I have no doubt that the use of these concentrated fertilizers will rapidly increase. There are all the indications of an increase of demand for them among market gardners and others. The first question is, what do you buy fertilizers for, and what do you want to do with them? There are three things upon which the value of a fertilizer depends — nitrogen, potash and phosphate. I do not need to detain you with any discussion of these substances. These three substances give value to the fertilizers. Phosphoric acid is contained in them in three forms. What is called the soluble, the insoluble and a third intermediate one which, while it will not dissolve in water, will dissolve in soil more readily than the insoluble. Some of the most common substances furnish these ingredients. The most common sources of nitrogen are three, salt of ammonia, and the various forms of animal sources such as dried blood and the tankage of slaughter-houses. The phosphoric acid of these fertilizers is almost always furnished either in some form of bone or some form of native phosphatic rock such

as the phosphate of South Carolina. The potash, finally, is usually found in some form of commercial potash soils, which are mined in Germany very extensively.

Now, as I said, in buying fertilizers you buy them for the sake of the nitrogen, potash and phosphoric acid they contain. But how shall the farmer to whom the names are a little bit of a mystery, who is not familiar with the different sources of these three elements, how shall he buy these fertilizers intelligently? You need to know, in order to buy them intelligently, how much of these materials, to be valuable, must be contained and how much to pay for it. The only way to find the value of a commercial fertilizer is to have an analysis of it. There are very cases where we can tell the value by simple inspection. Most materials used as fertilizers, but especially mixed fertilizers, containing a number of things ground together, are very liable to great adulteration. A poor fertilizer may smell just as bad as a good one. The only way to tell a good fertilizer is to have an analysis made of it. As to the second point, as to what to pay for it, there too it is necessary to call in the aid of an expert. In the east, in the experiment stations, it has been made a part of their business to find out what they can be bought for in the market. For instance the substance nitrogen. Every year it is endeavored to be found out what the retail price of some source of nitrogen, as nitrate of soda, is. They find out the price and about how much nitrogen it contains. From this data it is very easy to find how much nitrate of soda you have to get to get a pound of nitrogen. Last spring it was found you would have to pay about 18 cents. To get enough sulphide of ammonia at retail to furnish you a pound of nitrogen you would have to pay about 18½ cents, and so on through the list. They have published this information in a little table, a table of estimated trade values, showing what is a fair price per pound for these fertilizers. Having this and also an analysis of the fertilizer we are in a fair condition to know what is a fair price for that fertilizer. Suppose our fertilizer contains 10 per cent. of nitrogen and 4 per cent. of phosphoric acid. Then we get 200 pounds of nitrogen

in a ton of the fertilizer. The 200 pounds of nitrogen would cost, to buy in the same market, 200 times 18½, and so in a ton of the fertilizer there is $37 worth of nitrogen. Of the 4 per cent. of phosphoric acid which is worth, say about five cents a pound, 80 pounds will be worth $4, that is beside the $37 of nitrogen in the fertilizer.

By means of such an analysis and valuation you have the means of knowing whether the price asked is a fair one or not, and no man who buys any quantity of fertilizers and purposes to make money on them should neglect to have their value determined in this way and should hold the manufacturer to account for selling goods to him at a fair price. Of course very few farmers in the country can afford to pay for chemical analyses, and so to meet this point experiment stations have been founded in several of our states. In several states this was the primary object of the stations to give farmers a place for analyses of this kind. It is fortunate that in Wisconsin we were not called upon to do this work too exclusively. At the same time we desire to do this work so far as time will permit, and if any of you are intending to buy fertilizers do not fail to determine its value by such means. We can determine the amount of valuable ingredients in the fertilizer and can tell you with a fair degree of approximation whether the price is a fair one. We cannot tell exactly but we can tell within five dollars a ton probably, whether the price is a fair one or not. Then, just a few words in regard to the best method of buying this material. I have been talking about this in a general way, but not in a particular manner. In the first place, buy goods of this sort of large manufacturers, This kind of business requires honest, straightforward dealing, because the business is done on a very small margin. There is such a competition and such a strict oversight kept upon the business that there is very little liability to being cheated by dealing with respectable places of business. In the second place do not trust the manufacturer too much. Be sure that his fertilizers are as good as represented to be. Every reputable manufacturer will guarantee that his fertilizer contains so much of one or all of these valuable ele-

ments. Frequently a guarantee reads, nitrogen 2½ to 3 per cent. That means 2½ per cent. He comes within his guarantee. Moreover, another use of this guarantee is that it is a good way to get at whether it is a fair price or not. You can figure out if you have one of the tables of valuation which are published in the annual report of the station — you can figure out whether the price he asks corresponds to his analyses of the fertilizer. The better way is not to buy so many tons of fertilizer but so many pounds of valuable ingredients at so much a pound.

For instance, if you were buying dried blood, instead of paying the man $30 a ton with his guaranty that it contains so many pounds of dried blood you make an agreement with him that you will pay him so much for every pound of nitrogen or phorsphoric acid that there is contained in it, the analysis to be made by some experiment station man. Then you would pay for just what you got and would know just what you got, and furthermore, if you wanted to compare prices with some other mannfacturer you could compare them directly. If the offer is so many cents a pound, see that the valuable ingredients compare closely and then you have the thing fixed. You can tell which is making the best offer. Finally, with regard to the laws of determining the value of fertilizers. In some states manufacturers are required to deposit with the state chemist a certified sample of the goods they desire to sell. In other states these matters are managed in different ways. Some states require every manufacturer to pay a certain sum before they can sell their goods. In other states analysis fees are required and the deposit fee besides. The provisions are various in the different states. So far as I know there are no laws of this sort in this state, and it has seemed to some of us that it is time some such action should be taken in this direction, now while the matter is in its infancy and before a large trade is established in this state, and before manufacturers and dealers have got into ruts and think any intervention is an imposition upon them. It would seem perfectly fair to establish some such law, and it is possible that some such law will be brought up at the legislature next

winter. I don't think the law ought to start out with the presumption that every dealer will cheat. It may be there is no need of such a presumption. The business is perfectly legitimate. As to specific provisions, I do not know as I am prepared to say anything very specific about it.

Mr. Plumb — I would like to ask a question: Given land at a given price of say $25 per acre and ordinary stable manure at 25 cents a load, would it pay to buy commercial fertilizers?

Prof. Armsby — Your question reminds me of a story of the professor of political economy in Yale College, who, when lecturing upon supply and demand, asked at the close of the class if anyone wanted to ask any questions. There was a pause when finally one of the young men said: Professor, suppose I buy a horse for $80 and sell him for $100, do I do right? The professor said, now, that is a question to be settled between you and your God. Such a question as you ask me depends altogether upon what a man can get out of his land.

Mr. Plumb — You give us only general principles.

Prof. Armsby — Exactly, that is just what we pretend to do. I would say, though, that I don't think it would do at the prices you gave to use fertilizers.

The convention now adjourned until evening, to visit the grounds of F. W. Loudon. Carriages had been provided, and all who wished, were taken to Mr. Loudon's place. The party was shown every attention by Mr. Loudon and his assistants and an hour or two was spent in viewing the wonderful showing of berries on Mr. Loudon's grounds. Tables were spread under the shade trees and those who wished were served with delicious strawberries and cream. The party returned to the city in time for supper, though few felt the need of it, and all joined in pronouncing Mr. Loudon a most bountiful host as well as a most successful strawberry grower.

EVENING SESSION.

WEDNESDAY, JUNE 16.

The first on the programme for the evening was to have been a paper by Miss Ella Giles, of Madison, but as Miss Giles was not present, Mrs. B. K. Towne, of Chicago, then read a paper on

"DEBTS OF HONOR."

We are born into this world *debtors*. Man did not bargain with the Author of his being, agreeing to a contract that read: "*For so much life I promise to pay*," etc. Instead, life was simply placed at his account on what may be styled *long time*. And the way that it was thus placed, with no questions asked as to standing, no pledges required, no notes given, speaks of an *established* credit, flattering to self love, and he who appreciates this, sees that at the very *outset* he was placed upon his *honor*.

Life is *wonderful*, whether it be found in the heart of a flower, or the heart of humanity, and its *wonderfulness* consists even in its *possibilities*.

Down in the meadow we find a wild rose blushing and paling in the sun, balancing its cup to hold the dew to-day, to-morrow a heap of frailty upon the sod. Behind the white paling of a garden fence we find a second rose unlike the first as regal beauty from frail loveliness, and looking down into its velvet depths we find it hard to realize that this second rose is but the expansion of possibilities the first held in trust.

Half way up the mountain side we find a gnarled grape vine sturdily reaching to hang its fruit on the top of a dead plum tree; fruit that for all the rare sunshine bathing the hillside is sour and unlovable.

On a trellace on a southern terrace we find a second vine, borne down by its weight of luscious vintage; again and again we pluck and partake, yet this second vine is but the out-reaching tendrils of the first.

Down in an alley we find a lad, slow of step, sluggish of

speech, a scraggly specimen of humanity such as is sometimes found upon life's hillside; over in yonder hall of learning we find a silver-tongued orator, showering down scintillating thoughts upon a delighted audience; and yet again the second is but the out-growth of the first.

But while life is given as freely to the rose upon the meadow as to the rose behind the garden pale, we rightfully expect more from the latter than the former, and we are not disappointed. Nature is honorable and pays what she owes to the last farthing of expectancy. Does man? There are some debts we can never pay. We can never pay the mother for the breath she spent toiling into motherhood. We can never pay the father for the blows he struck on life's anvil to provision needs our coming awakened. We can never pay the generations back of us, whose combined skill hung in anticipation of our coming, the lightly swinging cradle in place of the hollowed log they themselves were rocked in, and prepared the tasteful raiment of civilization rather than *nature's garments* once the all needful. But while there are debts we cannot pay there are others that we can, and he who leaves a debt unpaid that may be paid *smirches* his honor.

Life is complex, and while the rose upon the meadow is the cradle of all rose-life, the reaching out of that rose-life takes many individual forms of expression, and each to be developed successfully must be understood; for we owe it to nature when we enter into partnership with her, as junior member of the firm, that we place ourselves in sympathy with her designs, and not set blindly to work fastening the grape back upon the unyielding trellace, in a vain attempt to make it grow straight enough for fence posts.

I have before me the growers of vines, vines that in many cases cluster around homes, in which are other vines, all with individual needs and far reaching tendrils.

Does the grower of the vine without place it in soil of his own choosing, and there bid it grow. Aye. But he is careful to choose only *such* soil as he knows the *nature* of that vine requires.

Down among the Berkshire hills a young man went

a-wooing, as young men will the wide world over — and finding the dove he thought best suited to his nature, he cooed, and the dove cooed back — as doves will the wide world over — and so both settled undor one roof tree. It was something of a responsibility that young man took upon himself when he deliberately set about drawing a young girl from out a path. She walked contentedly in until he taught her differently, teaching her to keep step to step with him for all time to come. But the first winter passed like a slant of sunshine, and spring came and the plow was asked to run its furrow; and the days were asked to hold more than they could hold, and so ran over into other days; and after the plowing came the planting, and between times, for catch-up-work, the vegitable garden. "John you'll not forget the poesy bed, Annie said leaning from the window to watch the beet beds nearing the well curb, and John looking at the picture his dove made framed in sunshine, said: "You can't *eat* poesies, Annie."

But he made the bed for her, and though it was much too small for all the seeds Annie had in waiting, and small indeed compared to the beet and turnip beds, Annie made the best of it, and laughed as she said excusingly, "John's so fond of his vegetables." The next year Annie called again from over the garden beds: "John, you'll remember and give me a flower bed?" And John answered: "Yes, it you'll give it back in time for a second sowing of turnips." But Annie knew her husband too well to take this, save in jest. But as she saw how very small the bed reserved for her use was — smaller than last year — and so narrow, showing where the spade had cut down on each side of it to make more room for the turnips and beets, it some how made her think of a grave, but as she murmured again, "John's so fond of his vegetables," she called a smile to her lips, and made it stay there ever after her eyes grew sad. Again spring came, and this time Annie did not call to John, but, in a further room she hummed a tune, and as she touched the cradle thought: "John'll not forget the flower bed, seeing I've always had it." But upon going to the window later, she found that John had forgotton, the

vegetable beds reached close to the well, and little pine sticks with paper labels stuck in them, stood as headstones, telling what lay buried there; but perhaps they held more than the labels called for, for looking upon them Annie turned, and laying her head upon her baby's neck, cried, and John coming in and learning the cause, went out of the house quickly, and the door, either by accident or otherwise, slammed, and as John stood at the well drinking, he thought: "*How can a woman make such a fuss over a little thing.*" It is the sliver and not the pine wedge that makes its own way under the flesh festeringly. Had it been a difficult thing Annie asked of her husband, in his busy seeding time, she would not have felt to measure his love for her by its *non-accomplishment.*

The next year John made the flower bed himself, and it was not shaped like a grave; in fact, he took particular pains not to raise it above the level of the ground — for so Annie wished; and he covered it with the blue-eyed periwinkle Annie loved; and he planted also the sturdy pinks and sweet elysium Annie raved over; and he even went over to the old home among the hills, and asked Annie's mother for a shoot of the white-rose by the gate — the gate where the doves had cooed. And there seemed nothing too sweet, and nothing too costly, to be planted upon that bed. But it was not in the home garden it rested, but in *God's Acre;* and though it was hidden in bloom, so that it lost its shape in a wilderness of sweet-smelling things, it was for all a *grave;* and as the days went by, more and more did John realize what was buried there. Often in the cool of evening he was to be seen working among his blooms, and people passing, said: "How he loves her." But in John's heart was ever an unsatisfied longing as he remembered *items* of the past; longings for power to do something more to prove the love that really existed. And he wished he might make that bed as wide as all out-door, so that he could pour into the past what he had withheld from it. But, alas! only the interest of the debt could now be touched by loving attention, for the *principal* had passed beyond his reach.

Do we not owe it to the ones we ask to share life with us; to the ones we agree to share life with; that as far as in our power lies, we will answer to the wants of their nature — thus supplying heart and soul nourishment. As surely as we fail in this, we too may plant flowers to hide a grave, watering them with *regretful* tears.

And, now we come to the little vines, the off-shoots of ourselves. Children seldon thrive well as cuttings. We do find them stuck down in life's sand, and striking out for themselves independently; but, in general, their future is more assured when cultivated as *layered branches* of the parent stalk. But there is many a parent who refuses to do by his child as by the vine he thus propagates, and why? For lack of faith with the vine; after he has a branch with many buds carefully arranged upon the ground, but *unsevered* from the main stalk, he proceeds to leave some of the buds of that branch uncovered to shoot-up through the sunshine into leaves and tendrils, and covering others with the moist soil, *believing* they will shoot down into the darkness of earth forming roots and fibres; and if, as the growth of the vine proceeds, he finds more buds starting forth than he thinks wise, he rubs some off so that the main vine may not be too heavily taxed for sustenance ere the time arises for severing the branch. Now, with his child, he is willing to follow much the same plan, save, that he wants all the buds of the child's nature to shoot right up into sight where he can know about them, and when he sees the child putting out a rootlet of thought, that strikes down, below the surface, out of sight, beyond his oversight and full comprehension, and he takes alarm at once, and he says: "Here is something I don't quite like the looks of,— it don't *grow like* the others, and it has a shy way of creeping off out of sight as though it didn't want folks to know about it; I guess I won't have it;" and he rubs it off. As well might the husbandman say to his vine, as it strikes its roots down into the earth: "See here; none of that! You've got to do your growing above ground. I'll have no underhanded sneaking off into the dark."

If that vine grows, it will grow the way it is its nature to

grow; and, while that growth by a judicious cultivation may be guided and controlled, an honorable faith must be extended to that growth that wills to exist out of sight, as well as that existing in sight, for both are essential to development. Down in the woods we find a boy fixing a water-wheel. Adjusted to his satisfaction, he throws himself back upon the sod, and with arms pillowing his head, he looks up through the net-work of green into the blue vault of heaven as though he would pierce it with his gaze and know what was beyond. But, even as he rests thus, the rustle of the leaves, the falling of the water, the dropping of the nut, the chip of the squirrel, is all taken thought of, and their music *thrills* him as pure symphony the soul of a musician. Now that *boy* appreciates nature when found thus, and his *father* appreciates it when found at the end of a hoe handle. The father "can't see for the life of him where his Jack got so much love of fol-de-rol." Well, it does not make so very much difference as to where he got it — if by fol-de-rol is meant his love of sweet music, and vocal music, and chipmunk haunts and water-courses. It was no doubt given him by the Great Father, back of all life, who gave to the rose its fragrance and to the onion its fragrance; and if you have the rose and the onion, you have to take them with their fragrance; and, if you have Jack at all, we're afraid you'll have to take him as he is with his ear attuned to earth's music your's is closed to, and eyes open to things you behold not. He's *yours*, as much as *his nature's* his, and you've both a part of that little item *life* bestowed on man on long credit, with nothing but his *honor* for a backing. The question is, what are you going to do about it?

"But I can't have Jack out there on the grass looking up into the sky and that onion bed running over with weeds."

Certainly not. Onions were made to be weeded, and boys were made to weed, there's no gainsaying that. But how are the two to be brought alongside?

There are three ways of accomplishing this.

First: The yank-and-haul system. But we don't advise this for Jack, for it may in the end swing him further than

you intend, landing him on the out-going ship while *you are left to pay for advertising* for a *runaway boy.*

Second: There is the dead pressure system of my will's stronger than your will, and I say weed that bed out and you *weed* it. This, like the other, is apt to do the work too thoroughly, it presses down so upon the boy that it presses the very best there is in him out of him — his individuality. It leaves him an I-don't-care-lump-of-humanity, that gets through the days automatically. If father says weed, he weeds, and then he stops, and if father says hoe, he hoes, and then he stops, and finally he develops into a sort of wooden man. Men, that like the *dancing* Jack, work very well when some one else is near to pull the wires, but the moment the hand controlling the wires drops he drops. There is a better way than this, and now you've brought Jack into the world it's only fair that you give him the benefit of the most approved methods of development. This third way is the *steady draw* of *sympathetic magnetism.* But in order to make this plan successful you must have *faith in your boy*, faith in the requirements of his nature, as they were stamped by the Giver of Life and pronounced fit for use; without this you can do nothing. More, you must have *faith* in yourself. These assured, use your magnet of loving sympathy; *first* to draw your boy to you as the sun draws the flower, make him *believe* in you, believe that what father says is so because father says it's so and *father knows.* This done and you will find it comparatively easy work to interest him in nature found at the end of the hoe *as found in results our own labor bring forth.*

But every plant needs stimulating. Stimulate Jack by appreciation. When he has done well with the onion weeding show him your appreciation of it by an hour in the woods for the things he loves so well, as a *reward.* "You don't believe in rewards! Believe children should be taught the higher way." Oh, yes, yes, that's all very well in the main, but when you stick those grape cuttings down in the sand you told them that if they'd take root and grow you'd give them some better soil by-and-by, and those that didn't root you didn't give any better soil to. And Our Great

Father of all says: "You do the best you can down on that little earth of mine and if you grow well I'll give you a better place to grow in. But to bring this matter of rewards a little nearer home. We find on certain pink-tinted slips of paper passed around here to-night, $10 *for the best strawberries* not less *than ten.* Now isn't that a pretty large reward for the growing of ten strawberries, and strawberries brought forth by the bushel? "Yes, but it's for the very *best* strawberries, mind you." And how was it about the onion weeding, didn't you ask for the very *best* there too? *Ten dollars* for ten of the best strawberries — dollar apiece — and Jack asked to pull weeds ten hours in his very best style and no reward. *I'm afraid big boys sometimes ask of the little fellows what they don't ask of one another.*

Reward is a legitimate incentive to development and a judicious use of it is lawful. More than this, you did not ask Jack what he thought of the idea of life before you brought him into life, you just put him down and told him to grow. Now there is a little danger if you push him into a corner, so that he feels that he is not fairly dealt with, that he may remind you of this not having been consulted, as a certain little maiden did we brought from the south to take up life in our northern home. The matter arranged of her return with us, and we said but little to the child save the bare fact that she was to go. She was but four and we acted on the plan, "least said, soonest mended," and she on her part, said very little. But the morning arrived for our departure, she permitted her traveling hat to be banded down, and she kissed her mother good bye and she climbed into the old stage, for her ride over the cordoroy roads connecting with the railway, and later she settled down into life by the rough Lake Michigan. So unlike the life she had known back of the magnolias, without a word, and we wondered if she were quite as bright as she ought to be. She took the change so indifferently. But one day we were obliged to remove her from the dinner table to have her face and hands washed, and then the change came. A storm wreath gathered on her face, but save by the scowl-

ing look she threw toward the food, she craved she gave no expression to it, and even as she stood watching the water run into the marble basin, she said nothing, but with the first pressure of the cool fluid upon her angry face, and she drew back a perfect little *fury* and *stamping* her small foot upon the floor, she cried: "*I never asked to come. It's too far.*"

As long as our will lies along of the child's will, this not having been consulted, is never heard from, but the moment the wills cross, and like a flash there rises in the breast of every quick-witted child, resentment at the unceremonious way he has been disposed of, and in his heart at last he cries, *I never asked to come.*

Of course there are times when the cool restriction of the parent must be laid upon the child's turbulant nature, but we must look well to it, that the circumstances surrounding these occasions justify, and we must never invite them needlessly.

Over in a corner we see a girl bending above a book. Now we always have great sympathy for a girl who loves a book, and seeing one engaged with one, we feel like tiptoeing along for a glance over her shoulder to see has she made a wise selection. But we never like to see a girl reading the way this one spoken of is doing, with her shoulders drawn forward as though she had accustomed herself to read by too little light; thus reaching forward for all there is to be gained; more than this, reading hurriedly, with her eyes darting from time to time to the door as though she feared interruption, and with a guilty flush upon her face, and, at a slight noise, thrusting her book aside only to resume it again when satisfied her fear was groundless.

There is surely something wrong when a girl reads a book thus. Either the book is bad, or something else is bad. But this one we find later is one to be approved. Then why did she need to read it by stealth, as a dog partakes of a stolen bone — with one eye on the food, and one on the world at large?

"I'll tell you," speaks up her parents. "She don't want to do anything *but read,* that's the matter."

Then we are to understand that she takes more time for reading than you are willing to allow her for her book? "Allow?" "No need of allowing her any time for a book, she'll take enough without that!"

"Then in order to have her bone she's got to steal it? In other words, if she takes any time for reading at all, she must take it by *stealth;* and yet the very sight of gold and green or a new book cover causes a thrill to run through her as the sunshine filtered through the green leaves above Jack. And *of the leaves of the forest there are* no two alike, and the Good Father says to all, *grow.*

"But we can't have Mary dowdling over her book, and the mother around washing the dishes."

That's true. Every Mary must do her share of helping mother, and more if she be the stronger. "But she won't as long's that book's left in sight."

There are some words formed in an old book that reads: "*To every thing there is a season, and a time to every purpose under the sun.*" On top of those words lay that book, fresh from the impress of another's mind, and say: "Mary, there's a book you'll like, when you get time for it." *Time!* Won't that girl get time, if *time means* this? Try her. Leave the book in sight, with your approval stamped upon it, and see if it does not prove such an incentive to well doing in her homely task, as you never dreamed. Leave it where its silent communings shall be hers as she flits through the morning's tasks, speaking to her, as it will, of a parent's loving forethought, that has provisioned an arbor of rest beside life's high-way, that her young feet may not grow a-weary.

And if in spite of your counsel she seems to love her book over well have *patience* with her. It is but meet that having planted these young spirits by our fireside, that we deal tenderly with them, giving them a fair chance to come face to face with the INSPIRATION of their life. For while you may have met yours in some of the more prosaic walks of life, Jack may meet his in the heart of the woods he

loves so well; and Mary's may suddenly be flashed to her from some thought of another's mind and left as indelibly upon her own as upon the page before her, again we say: "By the magnet of loving sympathy draw your children from themselves unto you and from thence you can *lead them to whither-so-ever you choose.*

But while we are giving attention to these individual weeds, pruning and caring for the *second growth* of the world's forest let us not forget the forest itself.

The *world has weeds.* Not a breeze is wafted to us, but bears the thistle down of humanity from all shores and from under all suns.

The world needs *men.* Men of broad brow, broad brain and broad understanding. Who can grapple with the *issues* of the hour, never so complicated? Where shall these be found if not among those who go out to meet the day with heads bared to the invigorating wind borne athwart dew laden clover fields, who *drink* inspiration off hill and dale stretching out in wide expanse, and who can look straight up into God's blue with no foul smoke of the world's engines obstructing their vision.

The world has need of men strong of heart, and strong of faith. Where will she look for these if not among the ones who go through life heart to heart with nature, believing and trusting in her, taking her tiniest seed and her two-leaf sprout and placing them gently in the earth, year by year and year by year building up their strength, until at last their homes are sheltered by towering crowns of swaying larch and sturdy *Arbe Vitæ.*

The world has need of purity. Where will this be found if not among the ones who know the purity of flower as found in their choice fruits; purity of color as found upon the rose that needs no painting; *purity* as extended in the lily cups they handle with care.

Surely where much has been given much may rightfully be looked for in return, and ye *are men placed upon your honor.*

Mrs. J. B. Day then gave a recitation, "The First Settler's

Story," which received ethusiastic applause. Mrs. Day then responded with a second selection, entitled, "A Green Pea Story." The convention now adjourned until morning without transacting further business.

MORNING SESSION,

THURSDAY, JUNE 17, 1886.

The meeting was called to order at half after nine o'clock. Mr. Phillips moved that a committee of three be appointed to report before the close of the meeting, on the experience of strawberry growers, and especially to report on the visit to Mr. Loudon's grounds yesterday afternoon, and the kind treatment received there. The motion was unanimously carried, and the president said he would appoint the committe in a few moments.

President Smith — The discussion with regard to varieties of strawberries will now be taken up. I understand that Mr. Loudon is not a speech maker, but a worker, but we shall be grateful if he will tell us in his own way, for instance, how he originated the Jessie, and how long since he originated it, and what it has done in years past compared with the condition in which we saw it yesterday, and how it has borne, and whether more or less than usual this year, and whether affected by the drought?

Mr. Loudon — I am not exactly prepared to answer all these questions, but from my recollection I can give you an outline. Some thirty years ago I wrote an essay which will give the data just as well as I can. I was satisfied that strawberries could be made like other fruits. Thirty years ago there were not very many strawberries in existence, I could not raise any large ones. My real success began about fifteen years ago. I had practiced all sorts of methods, I used then some Mackavoy's Superior and one Long's Prolific, and crossed them with some other varieties, which I do not remember now. About twelve years ago I began to get some very fine and very large strawberries, but they lacked either productiveness or quality, and many

points that go to make up a good strawberry. I then commenced to use Durand Seedlings in making my crosses, but among them all, none did any good except the Great American, and they threatened once to be a failure. I used them because of their size and beauty of form. I presume most of you have had it. Mr. Durand's strawberries are raised for prize strawberries. They are literally grown in manure. If he ever had one that grew three inches in diameter it was never seen. I have some very large ones, some that might measure nine inches around. I can tell you where to secure any original varieties is in making the crosses properly. You must have big strawberries to start with, and these big strawberries generally come from sprouts, and most of the big strawberries are non-productive. I then crossed another gentleman's seeds, who, when seventy-one years old, went into raising seedlings. I used all his seedlings. I got my best start from the Sharpless, which I have had eight or ten years. It is the mother of the Jessie, and of several other very fine varieties that I have. I have found it a very difficult matter to get quality as well size. If you could ask me questions I could answer them, I can't go to work systematically and tell you about it.

Mr. Stickney — In the production of the Jessie what was the manner in which you worked ?

Mr. Loudon — These people who are originating strawberries by fertilizers are a humbug. The germ in the calyx of the strawberry is closed. A few of the first blossoms come out and they fertilize the strawberries in the germ before they open. Now it is a difficult matter to get the start of nature and help them on their way. I used to do it but you have to open the calyx to do it. Take these varieties I use for crosses. I set six plants of different varieties, each for one particular quality. By using that method of propagation they do their own fertilizing. Start them in hot beds so there is no danger from outside. The pollen can be carried sixty or eighty rods or even miles. Birds will carry the pollen. In strawberries you will not find any chance seedlings that are good for anything. By having a strawberry for size I have set the Great Amer-

ican which was designed for a large strawberry and then have used another strawberry for quality. The Great American is a beautiful shaped berry. We want good shaped berries. The shape of the Sharpless is all that can be asked for. I have had seventeen of the Sharpless that would make a quart. That is all I can ask in size. It is a very uncouth strawberry. Its size is the only thing that recommends it. Nobody claimed that it ever yielded over 100 bushels to the acre. The Jessie, I *know*, has yielded at the rate of over 400 bushels to the acre.

Question — Having your seed ready for planting what is your method of procedure?

Mr. Loudon — I sow it in the spring. The plants come better to sow immediately. Select those berries that have a perfect leaf. Berries should be dead ripe when preserved for the seed. They will grow by watering and shading. The seeds will come up in about 12 days and must be sowed right on top of the ground. I give them total shade and don't cover them at all. I set them in the ground just the width of the seed.

Mr. Stickney — Do you any more than crush the berry?

Mr. Loudon — I will tell you how I do that. Take dry sand and make it as fine as possible by running it through a fine sieve. You want it perfectly dry. Then I take the strawberry and crush it and am careful that no other variety gets with it. This is so as to know what my variety is. I am careful to keep it distinct in that way. I crush them till I see the seed in the sand. Then I sow the seeds in a small patch and in two or three weeks they come up. They can stand it there then until the next spring, but I prefer to take them up and keep them until spring. I had rather give $3 for one plant in the fall than $3 for a dozen plants in the spring. You must keep the runners down, you cannot test it unless you do. I don't care how large a berry is, if you don't keep the runners down you cannot attain the size. Don't use any manure, for if you manure a strawberry, and it requires manure to attain its size, you get fooled, for the manure is what makes the strawberry large. I use as poor soil as I can find; I put them in there without manure for

several years. Then if the strawberries are large it is through nature. I am careful to keep the runners cut. Some strawberries send out more runners than others, some send out very few, and others very many. In a patch of from two to three thousand seedlings we have to cut over them as often as once a week. I know by the habits of a plant whether it will be a large strawberry or not, from the foliage and general habits of the plant. That is acquired by having so much experience in the business. I am rambling in my talk and I do not know as it interests you. It would take me a whole week to tell you all about it.

Mr. Ring — You think, then, fall seeding is the best?

Mr. Loudon — Yes. I set them out and keep the ground stirred around them.

Mr. Stickney — In late fall planting, do you not get winter losses by late setting?

Mr. Loudon — Some, sir; there is no strawberry I have ever raised except the Jessie, that will winter without covering. This is a general failing. I don't think it is a good plan to winter strawberries anywhere in the north. The difficulty with the Sharpless does not arise from losing the plants but from losing the foliage. Something is wrong with the fruit blossoms of the plants, I think. I don't think there was ever over 100 bushels of them raised to the acre and possibly not over fifty bushels.

Mrs. Smith — Do you mean to say that you prefer fall planting all strawberries?

Mr. Loudon — No, I meant only for seedling strawberries; what I know about strawberries is not so much but what I can learn yet as far as raising them for market is concerned.

Mr. Stickney — What proportion of the plants stand it, do you find in common?

Mr. Loudon — Just about eight per cent., never above ten and as low as five. The reason I take others up is to give the good ones room. Sometimes we find three or four within fifteen inches of one another. Then we have to be very careful that we don't get things mixed up.

Mrs. Smith — When plants are set in that way are all the plants coming from one strawberry alike?

Mr. Loudon — No. Yow see my seedlings Nos. 15, 12, 30 and 33; they all came from one strawberry and every one of them is distinct in its habits. They have different foliage.

Mr. Graves — Did I understand you to say that you used the Sharpless and that it was the mother of the Jessie?

Mr. Loudon — I crossed the last crosses with that seed. In 1880 I used Miner's Prolific. It is hard to tell where Miner's Prolific or the Jessie leaves off and the other commences. That shows that the Miner's Prolific has the blood of the Jessie. The Jessie was originated in 1880; I used Miner's Prolific in '78 or '9 and used the seed of the Sharpless and raised some plants, but the Jessie is the only one that shows any of the blood of the Miner's Prolific. I did not fertilize with Miner's Prolific at the last, but I have forgotten just what I did use, I certainly don't use Boyden's Seedling for the strawberry would show a white tip. I used the Sharpless in the '82 seedlings. You see: I have some seedlings there that are ahead of the Jessie in point of size. I used the Triumph because of its fine color. The crossing of strawberries requires skill, but I could not explain that to you very readily any further than I have said here, I have said it requires a long while; and you have to make many experiments and it takes quite a number of years, and requires a person when he sees strawberry plants to recognize the blood of every one of them. Often by some feature of the plant I discover whether I have succeeded in my experiment. I can tell exactly as soon as a plant has three or four leaves whether the plant is going to rust, I know it from observation, I am just as certain as I can be. For instance, there is a class of plants like the Wilson and Cumberland Triumph, most all of which show traces of rust in the seedlings. I shun all that class of plants. I never saw the least trace in Miner's Prolific of rust, that is one reason I use them in the crosses. The Green's Prolific was used on account of the peculiar quality of its leaf. That never rusts but the progeny of it does very badly. I can tell

the progeny of such strawberries everytime. When the Manchester was originated they found it growing on the sea shore in the sand and was said to be from the Wilson or ——— ——There is not a drop of the Wilson or in the Manchester, I am just as well satisfied of that as that I have planted it. It was supposed to be a cross of the ———— and Manchester; I know that is utterly impossible. The Manchester has the blood of the Cumberland Triumph or of the Green Prolific. There is no question of it.

President Smith — The discussion may now be carried on for a few moments by other members. Mr. Stickney is called for.

Mr. Stickney — I don't know as I have anything of interest to say to the persons present. My interest in this points towards these thoughts: The work; the necessary labor of undertaking such a work as this; the encouragements the discouragements that would lead a man through a series of years, from one generation to another, raising a hundred plants, transplanting them and watching them for one or two years; and then throw away ninety of them; and then, mind you, there is to be another sifting. Suppose today you have on this table one hundred varieties that you have tested with some care, and this has to be done again. After sifting out ninety per cent., ten per cent. is all that will ever come back to you. Patience is pretty well illustrated in that. Mr. Loudon said it was a labor of love.

Mr. Loudon — If I was to save these plants I throw away, any of them will beat the Wilson in quality, but I never produced a berry that will carry like the Wilson.

Mr. Stickney — That is very hard to do. There never has been a berry that is so hard. But to get back to the point; when a new strawberry is introduced at a dollar a plant, or five or six dollars a dozen, we never have had sight of the long continued labor necessary to produce this variety, but think that somebody is getting rich pretty rapidly. I think, you that have heard Mr. Loudon talk this morning, will change your mind a little, and think that a dollar is only a moderate price. The possibilities of one plant in one year are so great that the money is well expended. Anything that is

truly valuable and has been arrived at through long continued and persistent effort is worth its price.

President Smith — Mr. Loudon, have you watered these strawberries that we looked at this season? Have they been watered?

Mr. Loudon — No, sir; only I watered of the Jessie about a hundred, and found it too much trouble. I undertook to water those you found covered over, and found the best way was to cover them over. I covered them over and kept them shady.

President Smith — How do they compare with last year, larger or smaller?

Mr. Loudon — If there is any one here to corroborate me I should like to have them do so. They were by a few days ago and said: They are not as large as last year. The large berries are not any more than half the size of last year.

Mr. Smith — There are about as many sets on as usual?

Mr. Loudon — There are too many sets. I don't want anybody to take any stock in what I say in that respect. I will try and raise some strawberries next year.

Mr. Ring — Is it your opinion if you had facilities for watering your strawberries it would be better for you?

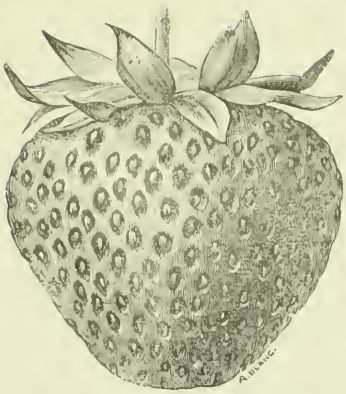
Mr. Loudon — Of course strawberries are ninety per cent. water, like other fruits. I think strawberries should not have rain until they begin to show fruit, and then they should have plenty of it.

Mr. Kellogg — I move the adoption of the following resolution:

Resolved, That the showing of the Jessie upon F. W. Loudon's grounds exceeds anything we have ever seen in their productiveness and quality, and we believe it to be better than most of the varieties under cultivation.

That last, is not strong enough; I believe it is better than any variety we have under cultivation.

Mr. Stickney — I would suggest that the last clause be struck out, and these words inserted: "And possesses more valuable qualities than *any* other berry under cultivation."



Jessie Strawberry.

That will do if you want to make it strong enough, as you say.

Mr. Kellogg — I will read the resolution again:

Resolved, That the show of the Jessie upon F. W. Loudon's grounds exceeds anything we have ever seen in size, productiveness and quality, and we believe it possesses more valuable qualities than any variety under dissemination.

Resolved, That in addition to the Jessie we are surprised at the wonderful success attained by F. W. Loudon in producing so very many prominent and valuable varieties of strawberry seedlings, many of them exceeding in size and productiveness our best varieties now generally cultivated.

In addition to these resolutions the following has subsequently been reported by the chairman of the committee having in charge the report on this subject:

"This additional report is made at the close of the strawberry season by the chairman of said committee (the committee appointed to report on Mr. Loudon's seedling strawberries) and Jas. Helmes, superintendent of the June meeting, after repeated visits to Mr. Loudon's plantations; and permit us to say that we have no interest in these berries whatever more than all lovers of good fruit and wishing success to varieties of true merit.

"After seven weeks of severe drought, I find the Jessie well loaded with fine large berries, some measuring four inches at this last picking, remarkably firm and of unexcelled character, and judging from the appearance of the quantity of fruit on the matted rows, should think a good picker would pick a quart box in 1½ minutes at this picking. I picked two boxes for table use and took them 3½ miles, handling them rather roughly, and some of the berries were what we consider overripe and unfit to ship, yet having a chance to send, I took one quart of Jessie and sent them to a friend in Iowa, 602 miles distant, and they arrived in fine condition, forty hours after packing, and I believe they can be safely shipped 600 to 1,000 miles to market.

"I find among Mr. Loudon's seedlings, many kinds at the close of the fruiting season, that give wonderful promise of great merit, both in size, quality, productiveness and firmness of fruit, and vigorous plants and healthy foliage, notwithstanding the unprecedented drought. These, together with the Jessie, stand side by side with Crescent, Wilson, Manchester, May King, Piper and many others of our best sorts, having received the same treatment and standing in matted rows, without any extra care, showing the superior qualities of these new kinds above any varieties I have ever seen, and from the variety of soil upon Mr. Loudon's grounds (some set in clean sand that came from a bank forty feet below the sur-

face produced a berry measuring 4½ inches, and from this to hard clay) I can not see why they will not open a new and successful era in strawberry culture throughout the strawberry belt.

"Respectfully,

"GEORGE J. KELLOGG,

"*Chairman Committee.*

"I concur in the above.

"JAMES HELMES,

"*Superintendent.*"

After reading the two resolutions as above given, Mr. Kellogg said: "Now if you have anything to say against the variety, trot it out. I believe from the report of President Smith, of sixty-seven berries on one plant he set last fall on his grounds, as he reports, and with the showing of the variety we saw on the ground, and the parched condition of the soil, where you could stick your hand right down in the cracks between the plants, and the small amount of manure applied, it is ahead of anything I have ever seen under cultivation.

Mr. Tuttle — I am in favor of that resolution, and still it seems to me it doesn't do Mr. Loudon justice. It does not speak of a single berry. What seems to me most wonderful is that he should have produced such an amount of strawberries. I believe that Mr. Loudon's strawberries are of more value to the country than all the different strawberries originated in the whole country in the last few years.

President Smith — I would like to say a few words about this. I wanted to put in a few varieties last fall for a particular object. My object was to try the Manchester for fall setting. Just that day I received a few plants of the Jessie, from Mr. Loudon. I set them in the same bed with the Manchester and the Wilson. The plants came in good order, and I set them just as I did the Wilson and Manchester. They grew well during the fall, and during the winter I covered them. In the spring one of them was dead from some cause, the others lived and are alive yet, but two or three of them are somewhat injured. The day before I left home, I examined one, the best of the lot, and counted sixty-seven berries on it. They had moderate sized,

runners when they reached me last September. They are upon as good strawberry ground as I have got. I have here some samples one the Wilson and one of the Manchester taken from the same bed. His plants now compare fairly well with these in size. The foliage is not quite so full, nor quite so strong. They have all the appearance of being something valuable. I can see only one thing that would seem to endanger them. It is a well-known fact that some strawberries that are very valuable where originated, are not so valuable when carried away from their original places. These have been carried so far from their original place and are doing so well that it would seem to indicate that they are not of that character. The Boyden has been spoken of. That is one of the varieties I have experimented with. It does not do so well away from where it was originated. Mr. Boyden died soon after he originated them. The gentleman who purchased the blood did well with them, and made himself well off in a few years from these berries. I got some plants from him, right from the native ground, and examined the soil carefully and had a little plat in my garden that I thought of about the same character. I put some of them upon that spot, and others upon another spot. We worked at them for years and would not give up, but they would not bear and we have ever heard of a place where they have borne even reasonably well. The indications would seem to be that this Jessie is of a different character. I certainly never had a strawberry plant do anything like so well. As Mr. Kellogg said, I had no chance to test the quality of them before leaving there. The ripe ones had been picked off by boys running back and forth. They are evidently very worthy plants and the shape is all that we can wish for at present.

Mrs. Smith — Mr. Loudon, did I understand you to say that this Jessie had been tested in very distant places?

Mr. Loudon — No, the only parties that have the Jessie are Mr. Smith and Matthew Crawford, of Cayuga Falls, Ohio, and the Experiment Station at Columbus. I am waiting to see if they will send me a report. I know it is utterly impossible for that berry to fail wherever strawberries will grow.

I cannot explain this, but I know it. I have got soils from all countries of the world and tested this berry in them. That is one of my methods.

Mr. Kellogg — This resolution I now offer is additional. [Mr. Kellogg now read the second one of the resolutions with reference to the Jessie, as above given.]

The question now being put the first and second resolutions were unanimously carried.

After some little discussion as to whether Mr. Stickney's paper or Prof. Seymour's paper should next be taken up, it was decided to listen to Mr. Stickney. Prof Seymour's paper treating of a topic of special importance to the city of Janesville would, so said Mr. Kellogg, be published in the city paper and afterwards in the regular report of the meeting.

CALIFORNIA FRUITS.

Mr. Stickney — In response to Mr. Adams' request to prepare a paper for this meeting I made this answer that after a brief glance at the season when everything was still and dormant, no fruit in season except the orange and lemon, it would be impossible to get a very good look at the fruit growing in that country, and it would be impossible and presumptuous to prepare a paper for publication. I should be unwilling to prepare anything that was to be published because my knowledge must of necessity be so very imperfect. I should dislike to go on record as to fruit growing there, and I do not want the reporter to take notes this morning on my talk. If I should say something that is not so and if our volumes should go to California, it would be very unpleasant. [At the request of President Smith, Mr. Stickney consented to have his remarks reported, provided he should see the proof before publication, and reserving the right to cut out any and all portions he should see fit.]

Mr. Stickney — I reached California at its extreme southern point, and oranges of course were then in season, and all such fruits were in season and would naturally attract my attention the first of anything. Of course they are very attractive and seem very beautiful, are of very much

interest to any unaccustomed eye, and to an accustomed eye as well, but a few weeks of study and careful inquiries and observation of the orange interest took away a good deal of the enchantment that distance lends to it. While it is their most attractive fruit and while the beauty and poetry of their southern homes are due to their orange orchards and ranches about their houses and all that, the fact is here that orange culture is perhaps as unprofitable and has as little of profit in it as any one fruit industry in the state. That may seem queer to one going into an orange orchard that has cost twenty years of unceasing toil to get up to its present condition and to see the trees loaded with fruit that they have been accustomed to pay from three to six cents apiece for, and to see men gathering these fruits with the utmost care and packing them in boxes. These cases have to be transported thousands of miles and if subjected to frost they are lost. You ask the price and you find that the producer gets less than a cent apiece, getting less than $5 a thousand for them, and you begin to think back on the question and wonder where he makes his profit. This price happens sometimes but not generally. They generally get from seventy-five cents to a dollar a box for them in the boxes. There are here large amounts of oranges, one or two thousand on a tree, so that you see the product of an acre amounts to something even at these prices. The aggregate of an acre of oranges is large. This year prices were higher. I see some money in orange culture, and if I lived in southern California I should have an orange orchard and take the chances of its paying me. The great drawback to orange culture is this: The white scale and the red scale, which differs very little from the insect that is ruining your maple trees in this city. It is not as prevalent there though as it is here and they are using the most strenuous methods to fight it down. It is not in every locality. They have very stringent legal enactments and fines for allowiig it to remain where it is. Every pains is taken to hold it in check, but it is a very formidable enemy and obstacle.

Next to the orange orchards a new comer will be most impressed by the vineyards. When you come to that you

have reached the thing that pays the most money. The vineyards, a man who had never read about them, would not recognize at all. There are no trellises but only stakes set at a distance of a few feet from each other with ragged stumps from 1½ to 2 feet high, and four inches at the base and ending in three or four points at the top. These vines are cut back every winter to a single bud on these three or four points. They mingle the ends of the branches but I could not see but they can pass through readily. There is no entanglement of the vines. Saw many places where the vines grew within each other but not enough to become tangled. Their labor on these vines is very cheap. Almost any man who can be hired is able to set and trim these plants. Very much of it is done by piece work. Everything is simplified so as to make it cost as little as possible. Of the varieties of grapes grown in southern California the larger part is known as the mission grape and some as the raisin grape. Probably ninety per cent. of all the grapes grown in California go into wine; the other ten per cent. into raisins. The bulk of the grapes that go into wine are gathered and taken to the wine-makers. The mission grapes sell for from one-half to three-quarters of a cent a pound and many times have to have railway carriage. They are piled in just as we pile potatoes into a car and then they are shoveled out into vehicles. At a half a cent a pound a grower can hardly afford to furnish himself with boxes and take care of the grapes. In the northern part of the state they are carried in bushel boxes and in that way are handled in a more workmanlike manner and these grapes bring from a cent to a cent and a half a pound; perhaps on an average not more than a cent a pound. Most of the growers I saw rather furnish mission grapes for from a cent to three-quarters of a cent a pound than the other grapes at from a cent to a cent and a half a pound, and they give as a reason that all the mission grapes are ready for picking at one time and the fruit is more accessible. A man will pick about three hundred pounds of the mission grape while he would be picking one hundred pounds of the raisin grapes. They therefore stick to the mission grape notwithstanding it

brings a less price. Now these are cheap rates that they get, but the compensation is better than they ever have for their other work. Four and six tons are considered a fair amount for an acre. They have their water supply under control so that they can water them. A ton of mission grapes makes about 160 gallons of wine. I don't know how much the other makes, but it is less. It has not as much juice as in the mission. One hundred and sixty gallons is a fair yield for the mission grape. In passing over the country I constantly met new plantations going into the ground of 80, 100, 200, and occasionally 500 and semi-occasionally a thousand acres in one solid patch of this grape. The price and quality of wine is less in southern than in northern California. In northern California they go into the hills and produce a smaller quantity of fruit but a much finer quality of grapes. The money made in southern California though is as great as in northern California. I visited one wine cellar in California. There was no roof and nothing to protect it from the weather. The wine was stored in tubs. I supposed that wine had to be kept in cellars that were kept at a most even temperature. That idea I soon lost. The cellar is at an even temperature, however. The prices vary from fifty cents to a dollar and a half, according to quality and age, but the price at which it goes to the wine adulterers at, if you please, is from twenty-five to forty cents a gallon, still affording the wine maker a good price, for he buys his grapes at from a cent to a cent and a half a pound. Their raisins interested me more than anything else. The raisins are made to be exported and they are dried in the sun right in the vineyard. They have cases like our little berry boxes, made of light lumber and of the right size to handle conveniently. They pick a layer of grapes all over this, as many as will lie in handily, and set them right down on the ground, between the rows, and leave them there. At that season they very rarely have rain or dews. They leave them there for eighteen or twenty days and then take another box, empty, and reverse them and leave them for another ten or fifteen days. Then they are carried and these boxes go into a compact pile in a way that

gets up a little bit of a sweat. Then they go into boxes that are packed to market and are sold.

The raisin product for 1885, as given by the statistican of the state, was something over a million pounds for the state. The industry is increasing. In addition to the grapes they raise themselves for raisins, they buy others. They are taken two or three hundred miles into Arizona where the climate is better for drying. Their own grape curing is most done on their own places, but what they buy is carried away. I met afterwards in Arizona a gentleman buying large quantities of land for raising raisin grapes. I think that the industry will spring up in Arizona. There is practically no limit to that industry. They will go to any market and will also keep until prices make it advisable to sell. I have great hopes for this industry. If I was going to California that raisin industry would be the first thing I should look after. Of course, in the disposal of fruit in California large canning works spring up, especially in the vicinity of San Jose. Of course these canned goods find their way, but much more largely to European markets. That industry and the drying of fruits must be the way in which they dispose of their extra fruit. Their green fruit has been brought here at very high freight rates and has been handled here by very eager fruit dealers, and the consequence has been we have had to pay from 15 to 20 cents a pound for this fruit. A movement was made last winter to simplify that. This proposition was got from the railroad men: If they would make up full trainloads of fruit they would give them rates at $300 a car instead of $600. All fruit thus far has paid $600 a car to get to this Mississippi Valley region. They now propose to carry it, in full train lots, at $300 a car and also to give it fast time. They propose to give it as near as possible to passenger time. Of course, this will help very much. Then the Union proposes to put some of their men on this side and see to the proper distribution of this fruit, and so we shall not have all of it go to Chicago to come through second dealers. We should have California grapes for ten cents a pound, if their best grapes do not bring them over 2 cents a pound. They get a

very reasonable compensation at that rate. [A question was asked as to raisins.] The raisins of commerce are made in just such a way as I say. We read of foreign raisins that are dipped in syrup, but there is nothing of the kind there. I have brought home several boxes of prunes and one box of figs; but on coming home and using them I do not think they are quite up to the standard of the German prunes but seem to lack the plump, fleshy body. The raisins are a little less meaty than the foreign raisins. It may possibly be the result of the process of drying. I know one thing more, on getting three boxes of them I found too many of them that should have been strictly second class. That is of course the fault of the grower in grading them and that can be avoided. There is no doubt that it will all correct itself in time. The first picking should be graded from the second picking. Some of the raisins now are very fine and some are very poor. In going through their orchards I was struck by these points of difference from ours. I thought I would see all going on there in large dimensions. Their mode of treatment is very different from ours. In the first place theo cut their trees back very severely and every year thereafter they seem to go on thinning out everything that is intercrossing, and cutting out everything that has too strong a tendency to reaching out. Their trees are very uniform in shape. They come into bearing very early, at three or four years from planting, and that has one tendency, perhaps, to check them. They disappointed me in size. I do not know but their dry season holds them in check some.

The product from the English walnut is quite liberal and is very good indeed. They do not call them profitable as compared with other things and yet they yield a fair income. They bear shipping and keep anywhere, and that is a great point for you can take advantage of the market with them. That is where the advantage of the dried fruit comes in. The dried prunes product of 1885 was about 2,000,000 pounds, and of the dried peach 1,500,000. The whole dried product of the state was something in the neighbor

hood of 12,000,000 pounds. I have no statistics of the canning industry, but it is very large, indeed. Now as to the question as to whether the people are satisfied with the pay they get you can best judge by what they are continuing to do. In addition to the orchards in bearing, there are millions of acres just coming into bearing and nowhere I have ever been have I ever seen such live nursery interests. Every few blocks in the city they would have a vacant lot with a supply of trees and thousands of trees were going out for planting. You see their faith is good and there is some way of making it pay them. Everything is most carefully attended to and we ought to pattern from them. I did not see five neglected specimens of fruit trees in the state.

Pres. Smith — Is the want of weeds in California due to the fact that they do not use barnyard fertilizers?

Mr. Stickney — Very largely, probably. In fact they do not have many weeds. They have one weed though that grows very dense and is an immense thing and has to be cut and drawn away. Another weed has stalks eight or ten feet high. These are all they have to contend with in the way of weeds. Their grounds are not only kept clean but in the growing season are kept very thoroughly stirred. Cultivators are going through their grounds constantly. I was quite surprised in the northern part of the state to find 20, 30, 40 and 60 acres of currant bushes. They were mostly Red Dutch. Their currant bushes are pruned with just the same care as the apple trees and grape vines. All are kept perfectly open to the light, sunshine and air. The fruit must be perfectly nice fruit. I took a lesson that I think I will appreciate now. I know I have bushes that are as high as my head. All the good fruit I get is from the outside. While it will cost a little more to keep them pruned I think it will pay. There are in southern California no cherries nor raspberries. The market for these things is in southern California. They do not do well there.

Mrs. Smith — Is pruning carried on during the growing season?

Mr. Stickney — No, it is done during the dormant season

and not in the growing season. I think the new growth is allowed to grow until after the crop. I do not think they have the superabundance of new growth that we do where we let it run at liberty.

Mrs. Smith — How many stalks were considered as enough for a good stem?

Mr. Stickney — Just enough to let the light and air come through. Three or four stalks probably. They get better currants if not more bushels in that way. Now in the way of obstacles to fruit growing, they have vastly less than we do. I do not know how it is, and they do not say how it is. There are very few insects that bother them. They do not seem to have to take the trouble that we do, with the exception of these scales on the orange trees. The climate seems to hold them thoroughly in check. Frosts they never have. Blighting winds from the ocean sometimes hurt them. One of the products, cherries, for instance, is hurt in this way, and this is a very fine product near San Fransisco. The same as on their apple trees, they get a blighting wind that troubles them. Yet these are very little things against them on their balance sheet. My attention was called to the work of a little bird called the linnet. Almost every bud, on tree after tree, was taken by these little birds. Things of that kind happen to them as well as elsewhere. The apples are the least important of anything there, but there are occasional orchards being planted there. In answer to my question, "What fruits pay best?" the answer was, "peaches, table grapes, plums, pears, apricots and cherries." I rode by and walked by, and gathered fruit from hundreds of apple trees that had winter apples hanging on the tree and not a leaf on the tree. This was in the dry season. The foliage was all gone, but the apples were all hard, and about as full of flavor as a very poor white turnip. I picked a good many, and bit a good many of them, but never ate one of them up. As a matter of fact there is not much but the Bartlett pear in the pear line, that they count on for profit there. As far as they can ship it, it does very well. Now, in thinking of California fruit growing, my mind had gone out to a whole state, a thousand

miles in length, and all covered with fruits from one end to the other. That is a false impression. While in the fruit growing districts they can do anything they please, and can have their thousands of acres, these districts are not so extensive as one would infer. Realy there is but a small portion of the state adapted to fruit, and further north there is something very difficult in that matter to understand. A man may start in one place and be very successful in grape raising, while another man may start in, five miles further and make a total failure of the whole thing. The five miles will change something, I don't know what. Either the soil or some current of air will totally blight and ruin fruits that are perfect in other localities near by. There is no certainty in anything until you test it inch by inch. It is just as unsafe as anthing can be for a man to invest, until he has tried the thing. So it goes with most everything in that state. I had always thought of California is a very rich state agriculturally, as soon as its agricultural resources were developed. In southern California there was herbage all over the country, for a million herd of cattle, and that was in January too; it was all choice herbage. To add to that you would see a horse or two, or a cow or two, or in riding across the country, you would see perhaps, two or three herds of sheep, with a little corral and a little hut for the shepherd. The fact was that they could put only a few cows, for that was their whole herbage for the whole year and when that was gone there was nothing to keep the cattle. In riding across any part of the state that I did, outside, that is of the fruit localities, you ride across an extended stretch of it, where you do not find anything to make life enjoyable, and nothing to contribute to the real comforts of life. I came home with this feeling, while California is a most excellent and enjoyable place in which to spend a few of the winter months, I would very much dislike to adopt it as my home the year around, and particularly, if I had my living to get I should vastly rather stay in Wisconsin; and I think you can all adopt that conclusion without going to look, or reading, or thinking upon it. I think the people who are here to-day

by staying in Wisconsin, Mr. Smith growing cabbages, I growing pickles, Kellogg growing pears, Loudon growing strawberries, I think if we all pay attention to these industries, we should come out ahead of California industries.

President Smith — I saw a statement not long ago to this effect: Wisconsin as compared to California had a larger aggregate of wealth, and the aggregate wealth per capita was very much greater. I think nearly double that of California.

Mr. Stickney — I should not doubt that statement at all Mr. Smith.

President Smith — I was quite surprised at it.

Mr. Stickney — In point of fact is not Wisconsin very highly favored in many points? In mineral wealth she is very rich.

President Smith — I have traveled many thousand miles these last few years and my impression has been that no state I have ever traveled in shows in the aggregate so prosperous a condition of the farmers as the farmers of Wisconsin. The average condition of the farmer is better in Wisconsin than in any state I know of.

Mr. Stickney — The matter of water supply though not perhaps horticultural may perhaps interest you. Of course they have to have water to raise anything. There is just this much raised in independent of irrigation and that is in some localities an occasional crop of grain. Most of the hay is made of grain cut in an imnature condition. That is often grown up to the point of cutting for this purpose But everything else that you want you must irrigate for. In the first place too hilly land must be reduced to a certain level and that involves a great expense. This water supply costs on an average about $2.50 to the acre. Then you are down here ten miles on an irrigating ditch and all along the line you must take the water when it will reach you. Possibly if there was an abundance of water by some especial request you could vary the time somewhat. But practically, however, you have to take the water when you can get it. When you do get it you have to be out there with your hoe and dancing around those little mud ditches, and you have

to be pretty lively about it, too. It struck me I would rather get my water from the clouds.

Mr. Fisher — It struck me that the gentleman left out the greatest curse of California is that the land is owned by too few parties. It does not pay parties in the state to put any improvements on the land. This is in my oppinion the greatest curse of California. They are using up the wood land in this way. They have to let the land lie idle one year in order to get a crop next year. Soon they will have to let it lie over two years. If we could find people on their own land it would go ahead of Wisconsin.

Mr. Kellogg — I think Mr. Fisher is right. When I was there the land back from the rivers was not worth a cent until you got back into the gold regions. Now they have made something of it by irrigating. It is wonderful what they have made of it.

Mr. Anderson — I was going to say there are two sides to all these questions. I have a brother-in-law living there but only has a small farm, only 140 acres, and he told me he had cleared much money every year. He had lived in several different states and he says he prefers to live in California. I asked him to tell me what kind of fruit he would recommend for profit. He said alfalfa. The land will produce big crops. Mr. Stickney was close to my brother-in-law's when he was at the ostrich farms, that he omitted to tell you about. Mr. Stickney must have seen some of the best land. But he only got into one little winery. I got into one that cost $700,000. There are some advantages and some disadvantages in living in California. I don't know but I would want water where I can get it when I want it. It doesn't cost them as much for irrigation as it does me to get my manure out. They can do their work in the fall. They can begin in December. Here we have to do everything in the spring and frequently have to work the land when it is not fit to work. I for one feel satisfied that I could make money in California perhaps as well as here, but I do say that I didn't see a farm in Los Angelos county that I would trade mine for. They haven't the facilities that we have here. But take it all in all a man of

my age could enjoy life in that country pretty well. I was going to say one thing in praise of this section of the country. Take Rock Island for a central point and go 150 miles in every direction or 200 miles and there isn't a place on the globe that will excell it for agricultural purposes.

Mr. Jeffery — I think it must be a very nice place in California although I never lived there. I had a brother who lived there 15 years and came back to Wisconsin and said he could not stand it. He went to Kansas afterwards and could not stand it there and now he has gone back to California; and another brother who has gone there says he has had more enjoyment than he has ever had in Wisconsin or in Kansas and it is a level country. Several other parties who have since gone there all write back that they are very much enamoured of the country. Another gentlemen sent back word before he had been there three weeks to sell his farm here in Wisconsin. So I think there must be something there not here in Wisconsin.

The members now engaged in a discussion on the currant worm.

Mr. Stickney was called on.

Mr. Stickney — I have used this year so far 75 pounds of white hellebore and guess I have the currant worms where they will stay this year. There may be a second lot of them that will come, but I guess not. That is on old ground where the bushes are very high and very broad. I shall make no more such bushes. I shall follow a system of pruning that will keep my bushes less large and more open. always apply my hellebore dry and have constructed one or two devices to apply it to them, but I don't like them. I have little boxes with fine holes in them and with these you can put on as much as you wish. I have always used the hellebore just as it comes to me, that is, pure. I hardly ever have to use it a second time unless those who do the work have overlooked the work. I found two or three places this year that had been omitted. Then they began to lose their foliage and then a stronger application fixed

them. I apply it right through the day although I would prefer the morning when the dew is on. The insect's egg is always deposited on the under side of the leaf. As to the cost of hellebore; as mine was bought at wholesale and I had the benefit of reduced prices I got it at 16 cents a pound. The usual price is from 20 to 25 cents and the retail price is much more than that. No matter if it costs a dollar a pound you will need but very little in an ordinary patch. In going over my two acres I think I spent six days' work in going over the whole at $1.25 a day.

Pres. Smith — Is not the Long Bunch Holland a very much stronger grower than the Red Dutch?

Mr. Stickney — Very much. I have no Red Dutch on my farm and have no currants in my fields for marketing except the Long Bunch Holland and the Prince Albert, and they are both very large and tough-hided, and anything but nice for the table. They hold on until the rush of other currants has gone by. They bear carriage very well. I nail them up tight and ship them anywhere, and when they reach Chicago lots of them go to St. Louis, and others to other large cities. We can press them into the boxes so as to carry without shaking. The Victoria has no value as a shipping berry, compared to these two. Of these two the Prince Albert has a better looking bush, and is a handsomer fruit but does not yield quite as much. The Victoria does not produce the showy clusters, and the bush is not as strong and for some reason or other a lot of the Victoria standing close to the others, escaped the work of the worms. There is something about the Victoria that the worms do not like. I do not plant the Prince Albert nor Long Bunch Holland for table use. I think the White Grape is the most productive currant I know of, without any exception, and it has this good quality, if it stands in a place away from the sun you can almost always have currants hanging on until late in the season. You get good currants and of a very delicious flavor. They are by far the best for table use of any white currant known. No one wants to plant white currants for selling. They are not wanted for anything hardly but table use and only a few for this. My

conscience has smote me somewhat for selling the Long Bunch Holland because I won't use it myself, but I suppose it goes into spice currants, etc., and it is in every way satisfactory as far as dollars and cents are concerned.

President Smith — Do I understand that the Long Bunch Holland is not suitable for jelly?

Mr. Stickney — Perfectly suitable for jelly. They are not as good as some others but they are very good, I do not think they are quite as good for it as the Red Dutch. To eat from the hand I think a few would go a good way.

Mr. Plumb — Mr. President, I would refer to my statement yesterday. Failing to get any other currants from Mr. Stickney, and he sent us the Long Bunch Holland with a qualification something like this: If you can't eat it, sell it. My wife said she thought it made the best currant jelly she ever tried. Everybody who tried it said it was a remarkable currant for making jelly.

Mr. Stickney — That is where it finds its use, in jelly and spiced currants.

Some discussion followed on the afternoon programme.

Mr. Plumb — I think this society ought to get together and talk over its work at least once a year. There are several questions not only pertaining to matters of fruit growing, but several other questions. There is a question as to the manner in which trees are distributed in this state under false pretences. Now, I presume every nurseryman and I presume President Smith knows that it is a fact that a large majority of the trees sold in this state are sold under false pretences. There is quite a variety of these false pretences, and I have with me letters from farmers and others asking if this society can not do something to head off this business. We need to do something in self-defense, and I hope a portion of the hour devoted to the general work of the society can be taken up in this discussion.

The President now appointed Mr. Plumb to lead the discussion on the general work of the society.

President Smith then made a few remarks with reference to the experiments that had been taken up this year by several parties in connection with the State University.

AFTERNOON SESSION,

THURSDAY, June 17, 1886.

The meeting was not called to order until half after two o'clock. The first thing on the programme was a discussion on, "What Experiments are Valuable in Horticulture?" Mr. Tuttle led the discussion in place of Mr. Hatch, who was not present.

Mr. Tuttle — I merely expect to open this discussion. I thought that if a person should go over the whole course of experiments in horticulture that we have here in Wisconsin, that we should not tell a very bright story. It has been an experiment from the start. We were in a country where it was necessary to experiment. In the commencement we were totally in the dark, but as we have gone forward, I think we now talk with some degree of intelligence on the subject of fruit growing in Wisconsin and the northwest, as far as experiments in horticulture in small fruits is concerned, my experience is very limited. I have done something in grapes, and experimented with new varieties, and had considerable loss, and I think now, that as a general thing the profit is in the hands of the originator, or propagator of these new varieties. The show we saw yesterday, of new strawberries, exceeds anything I ever dreamed of. If forty years ago we had dreamed of any such advancement as that we see to-day, compared with what there was forty years ago, we would not have believed that there could have been that advance in that class of fruit. My experience has been principally with the apple, and I had full faith that we could grow apples in Wisconsin, and I watched for them in the varieties that had been growing for a great many years. And those old standard varieties, until a year ago last winter, were successful. I never lost a Fameuse, I never lost an Utter, I never lost many of these old varieties; but now there is a complete and total failure. I am surprised in going through this region of the state, and that region where I am, which has been considered a good apple region. My home orchard has

been very nearly ruined. I had six St. Lawrence and five of them are in good condition. I had five hundred Fameuse and nearly all of them died; I had nearly two hundred Utter trees and there are not five of them that are any good to day. They are trees that have been out ten or twelve years. Our experience commenced with the Russian apples some fifteen years ago. We thought then as we think now, that coming from a country where the climate is more rigorous than in this, we had faith that we could grow these fruits here, and that belief was strengthened by the fact that the Russian trees were out of our own. We expect to get something out of these trees. We expect to get out of the hundred or more varieties that we have been testing something like five or ten that will help make Wisconsin an apple growing state. I think we shall get the requisite number to make this an apple growing state, from early to late ripening varieties. We have probably something over eighty varieties growing this year, many never fruited before. We have enough to fill the places of the old sorts, and give us apples equal in appearance, and equal in all respects to the old sorts we have been growing. To-day as I look upon my old orchard and see the amount of dead trees, it seems discouraging. This spring I went through and cut out those that were not hardy. Of the Russian varieties in the Russian orchard I have lost one tree. I had two trees of the kind of this tree and one of them is killed. I got one tree that proved to be White Astrakhan, it was formerly considered a good and hardy tree, but out of five trees of that kind that came under the name of the Green Transparent, out of the five, four of them are dead. These, like the Red Astrakhan, come from the northern [?] part of Russia, but the balance of the trees are as thrifty as any trees have ever been in any part of the United States. I have several varieties that I think excel the Duchess as a good bearer. As a general thing they are early bearers, abundant bearers, and attractive as show apples, and of a good quality. Now I don't eat many apples. It is very seldom that I eat an apple. I had the Fameuse and two other varieties in my cellar, from early last fall until I took

them out this spring, and I had plenty of them left. I eat very few apples. I am a little particular as to what apple I eat. As for the Duchess, I should go without apples to the end of time without eating the Duchess, or the Red Astrakhan either. It is too sour. I have an early apple that is not quite so sour, that I consider quite a good eating apple. The story has been circulatod over the country that we had no apples of good keeping and eating quality. Now I have apples that will keep better than the Golden Russet. I will say again that I think there is a class of apples that will make Wisconsin as good an apple state as Michigan.

Mr. Philips — Have you any apples that look and bear better than the Fameuse and St. Lawrence do at the same age ?

Mr. Tuttle — Oh, yes, a good deal better, a good deal better. I consider the Wealthy a valuable apple for Wisconsin in all parts of the state where it can be grown. I had it before the Fameuse played out. I have dropped it [Fameuse] and have not propagated it for six years, principally because the scabs used it badly, and because the Wealthy would take its place and more than fill the place.

Mr. Phillips — Yes, the Wealthy, where it can be grown, is a very profitable tree.

Mr. Stickney — I should say that as a starter, the experiments of Mr. Loudon are very valuable, and any man that will take up the experiment of fruit growing and persist in it as Mr. Loudon has done, cannot fail to bring out something that will help us. Mr. Peffer's experiments have been and are continuing to be very valuable in originating new varieties from seed. It may be and has been with him as with Mr. Loudon, that he has ninety failures to one success, but something good will come of it. The field is endless and some good must come of it. I have read every second year, for a great many years, the biennial address of President Walter of the American Pomalogical Society, and I never fail to find in that address from half a page to a page on originating new varieties from seed; and that old gentleman, at 80 years, is working as earnestly as any man in crossing varieties of fruits and flowers, and searching con-

stantly for new varieties. I do not know of any other kind of experiments that are worth as much to the country as these. Take the currant, for instance, which has been a sort of hobby with me. It ought to become more than twice as productive as it is, and there is a field for experiment. The same is true of raspberries and blackberries, and also of our shade trees and all things of that kind. If the soft maple trees of your town were all replaced by the Norway maple, it would have been better for the town. The tree is much better than the hard or soft maple. It has a very dense foliage. I know of no foliage like it. Now these trees, I have no doubt, could be grafted nicely on the hard maple and we could go on to make some nice trees in that way, and could take it into the nurseries and graft them. We could make an experiment in that way. The best instance of success in such matters that I know of in the west has been the hobby of Mr. Douglass, in Michigan, developing choice varieties of shade trees, particularly farmers' hedges. That man has brought out in 20 years some six or eight very desirable varieties of arbor vitæ, all from seedlings of his own. His close habits of observation would show him some peculiarity of leaf or foliage. He has one which they have named Tom Thumb, which is just a nice little dwarf. All are gathered from just the seed of our common white cedar by his earnest, careful, persistant habits of observation, and when he finds a good thing he sets it aside and propagates it. I had the pleasure to place in his hands, through the kindness of a party in St. Paul, who had a specimen of juniper nearly as big as a half bushel and of a golden color, cuttings from this specimen, which were sent to Mr. Douglass at my request. From that Mr. Douglass has propagated hundreds and perhaps thousands that are to-day selling in this country and in Europe at fabulous prices; and very many others of these choice arbor vitæs are selling in this way. Experiments of that kind are very valuable. To go further with Mr. Douglass' work: he spends hundreds of dollars every year in gathering seeds from every place — from almost inaccessible places — for the sake of getting something new and rare, and there are among these quite a

number of almost novel varieties such as the spruce and balsam.

Experimental work is unlimited. Every man who is a horticulturist should have some hobby, be it shade trees, apples, strawberries or roses. Our fellow member, Mr. Toole, has made a specialty of pansies and has produced results that are very satisfactory and fine. All ought to be doing something for the cause, and carry it on for a term of years. Carry it on until you reach some result. It may not have dollars and cents in it but the dollars and cents will come in afterwards. The love of it will carry you farther than the dollars and cents. You can hardly go amiss if you fail at it, something that comes out of it will do you good. It is very hard to settle what will do the most good. Experiment in another way, with special manures, special fertilizers and special methods is very valuable indeed. In theory every member of our society ought to come in to our next winter meeting with some new facts, substantiated by his personal experience for the past year. We do not do this but we might do it. If you would go away to-day with the resolve that you would do it and would go persistently to work at it and try for some new fruit, a special treatment of some old fruit, and the application of special fertilizers for strawberries, which is I believe under experiment, anything of that kind is experiment in the right direction. That is experiment we could do together, and must result in some good, if we all do it with any earnestness.

Mr. Plumb — I should like to say a few words on this question, but I should follow right in the track of those who preceded me, and as we have only another hour left before adjournment I will enquire if the paper (Mrs Willard's) we are to have this afternoon is ready.

Mrs. Willard not being present the report of the strawberry committee was listened to. This was followed by the report of the committee on vegetables, after which came the report of the flower committee.

Mrs. Willard being present now read her paper.

THE HISTORY OF SOME OF OUR CULTIVATED FRUITS.

MRS. C. A. WILLARD, DEPERE, WISCONSIN.

We become so familiar with many things by habitual use that we are surprised if at sometime our attention is called to the fact that these familiar and common articles have come to us from remote localities and have in many instances a very interesting history.

Such is the fact respecting fruits that have become so common with us, that we are apt to think that they are indigenous to our own country.

While we have made and are making great advances in agriculture and horticulture, bringing to the services of these industries the knowledge and science of the present, in a degree that has marked a progress in these departments, that is creditable to the intelligence and enterprise of the horticulturists of the country. Still, when we consider the fact, that so many of the fruits that we are growing and that we are familiar with, have come to us from remote and distant localities, it may be a question whether or no, we have exhausted the possibility of extending the varieties, and the profit that may be derived from their cultivation.

For instance, the apple is found growing wild all over Europe except in the extreme north, in parts of Asiatic Turkey, in the south of the Caucasus and the north of Persia, and in the mountains of northwestern India it occurs apparently wild. But the particular region of the globe where they appear to be most truly indigenous seems to be in the country lying between the Trebirond and the north of Persia.

It was in the neighborhood of Trebirond that the botanist Bomgean met with a small forest of wild apple trees. The type found there bore sweet fruit, quite unlike our native crab apple.

The ancient lake dwellers of Parma, Lombardy, Savoy and Switzerland who were probably as ancient as the seige of Troy, or may be as the founding of Rome only appear to have made great use of the apple. They split them lengthwise and dried them for their winter store as the New Zealander's before and after Cook's visit, were wont to do with sundry wild fruits of their islands.

Prof. Heer, of Zurich, examined the specimens found in the lacustrine deposits with great minuteness and became satisfied that at a period, when the use of metals and hemp were still unknown there were two distinct kinds of apples thus stored, of these the smaller were possibly wild, while the larger kind were probably cultivated, and appear to correspond with an apple grown to this day in the German speaking cantons of Switzerland under the name of Campanea.

Prof. De Candolle thinks that the apple existed both in a wild and cultivated state in Europe, in pre-historic times, and that the first attempts of cultivation were made independently in different localities, "in the dim past beyond historic ken."

"Cyder or Seider was made from apples" by the Teutons long before the Roman period.

The apple being regarded as the most excellent of fruits has appropriated the Latin name *pomona*, signifying, generically, fruit of all kinds, and specifically, fruit with abundance of seeds, as apples, pears, quinces, figs, pomegranates and the like.

Hence, much confusion of ideas concerning Adams' apple, as to whether it was really an apple, or a fig, or a pomegranate or some other fruit conspicuously provided with means of reproduction.

Mythologically the apple may be regarded as the symbol of reproduction. In Servia, when a girl accepts an apple from her lover she is considered to be engaged. Among the sclaves of Hungary, after an interchange of rings, the lover gives an apple to his betrothed in token of marriage.

In Sicily, it is a custom with young girls on St John's day, (Midsummer day) to throw an apple from their chamber

window into the street, and to wait and see who picks it up. If a man, the girl will be be married before the year is out. If a woman, there will be no marriage that year. If the first-comer looks at the apple without touching it, it is a sign that the girl, when she marries will soon be widowed.

If the first to pass be a priest, the young girl will die without being married.

At Tarentum, in southern Italy, at wedding feasts, when the repast has come to the final apples, each guest takes one, makes a slit in it with a knife and inserts a silver coin. These are offered to the bride, who bites them one by one and takes out the money.

On ancient Greek tombs Eros is represented with a basket into which apples are falling.

The apple is obviously a symbol not alone of reproductive power, but of immortality, as well.

In a Lettish (Lithunian) ballad, the apple tree stands for the solar tree, the impersonation of the sun. The sun loses his golden apple, and bewails its loss, he is put to sleep in an orchard and told that in the morning he will find his apple again, but the sun goes on crying because he has lost his golden boat, and is consoled by telling him, that he shall have another half gold, half silver.

This idea seems to furnish quite an appropriate commentary, on the voyage of Hercules to the Hesperides.

There is a very pretty mythological enigma among the Swedish, "Our mother has a coverlet none can fold, our father has more gold thad any can count, our brother has an apple no one can bite."

The explanation of the riddle is this: Our mother is the earth, the earth's coverlet is the sky, our celestial father is God. His stars are innumerable, our brother is the Savior whose apple is the sun.

Cultivated pears, whose number is enormous, are without doubt derived from one or two wild species widely distributed throughout Europe and western Asia, and sometimes forming part of the natural vegatation of the forests.

In England, where the pear is sometimes considered wild, there is always doubt that it may not really be so, but the

produce of some seed of a cultivated tree, deposited by birds or otherwise, which has degenerated into the wild spine-bearing tree, known as *Pyrus communis*.

The pear is found wild all over temperate Europe and in western Asia, particularly in southern Caucasus, and the north of Persia.

Some botanical writers extend the habitat as far as China.

The ancient lake dwellers of Switzerland, Savov and Lombardy used pears, but much more rarely than apples. Their pears appear to have been of small size, with very little pulp, which may be partly due to the drying. Homer and Theophrestus speak of the pear. The Romans grew it largely in Pliny's time, and representations of pear trees in fruit abound in the mural paintings at Pompeii.

Prof. De Candolle regards the existence of the pear as not only pre historic, but probably anterior to all cultivation throughout the region extending from the north of Persia to the western coasts of temperate Europe, especially at higher altitudes.

They have a native variety in the Alps of Austria called the "snow pear," it being eaten when the snow lies on the ground. In France they have a native variety called the "sage pear," from the resemblance of the leaves to those of the sage pear. The leaves are much narrower, and the fruit much longer than the common pear. The French make a drink from the sage plant that they call perry.

There are two views respecting the origin of the peach. Prof. de Candolle attributes all cultivated varieties to a distinct species, probably of Chinese origin, and that adopted by other naturalists, but more especially by Darwin, who looks upon the peach as a modification of the almond.

The peach, as we now know it, has been nowhere recognized in the wild state. In the few instances where it is said to have been found wild, the probabilities are that the tree was an escape from cultivation.

Atchison, however, gathered in a ravine in Afghanistan, a form with different shaped fruit from that of the almond, being larger and flatter. The surface of the fruit he observes, resembles that of the peach in texture and color, and

the nut is quite distinct from that of the almond, which he also found growing wild in Afghanistan.

Darwin thinks that botanical evidence seems to indicate that the wild almond is the source of cultivated almonds, peaches and nectarines, and, consequently, that the peach was introduced from Asia Minor or Persia, whence the name Persica is given to the peach, and Atchison's discovery in Afghanistan, of a form which reminded him of a wild peach, lends additional force to this view. On the other hand, Prof de Candolle considers the peach to be of Chinese origin, although it has not been found wild in China, it has been cultivated there from time immemorial, it has entered into the literature and folk-lore of the people, and it is designated by a distinct name "to" or "tao," a word found in the writings of Confucius five centuries before Christ, and even in other writings dating from the 10th century before the Christian era.

The strawberry is a native of the northern portions of both continents, the American species being much larger than those of Britain, and brought into cultivation since the time of Columbus.

The Alpine strawberry, a native of Switzerland and Germany, differs considerably from the other kinds in its taller stems and more ereet manner of growth. The fruit which is either red or white, is not very large, but is produced in great abundance, and, unlike other strawberries, parts from its calyx almost on being touched.

The Indian strawberry, a native of the Himalaya, produces fruit in abundance; but the flowers are yellow instead of white, as in other strawberries, and are not produced upon common flower stalks rising from the center of the plant, as in other species, but upon single flowered stalks, which spring from the axils of the leaves upon the runners. The fruit is said to be very beautiful, growing with its apex upward, but is not considered of very good quality.

There is a little mythology concerning the strawberry which may not be uninteresting.

It is for a pair of red shoes, or for some strawberries, or for a peacock's feather, that the young hero or heroine in Indo-

European folk-lore sacrifices himself or herself. The strawberries are jealously guarded by a demon, who employs them to tempt the young hero's he persecutes.

For the sake of strawberries the solar heroine oft-times risks her life. The sorceress sends the young girl to look for strawberries under the snow, in the which task she succumbs.

The strawberry here is the embodiment of spring, the season of green, of red, of gold, the season of the demon, according as the yuest is made at the beginning of winter, or at the end (in the night), so that the heroine returns laden with spring fruit, or perishes in her bootless errand, as the sorceress knows full well she will beforehand. Strawberries are also an emblem of small children who have died in the past; their color likewise is commemorative of homicidal blood, whence it follows that popular tales, in which strawberries figure, bear a striking resemblance to those wherein the Mountain Ash unmasks the murderer of the youthful hero metamorphosed into a tree.

The mythological aspects of the strawberry, occur in many German popular tales and almost always in connection with young children. According to a German legend, mothers who have lost children are careful not to eat strawberries on the eve of St. John's (Midsummer eve) believing that infants go up to heaven, that is to paradise, hidden in the fruit. Were the mothers to eat thereof, they would displease the Virgin Mary to whom the fruit belongs, and she would refuse admission into paradise to children whose mothers had stolen the fruit.

It is with strawberry leaves that the robin red breasts in English story, cover the dead bodies of the babes in the wood. The solar meaning of this myth is that the wood is night or winter, in the evening or at the end of autumn the sun disappears in the night. The strawberries disappear and reappear with the luminary, and the leaves conceal them meanwhile

The cherry is supposed to be of Asiatic origin, whence according to Pliny, it was brought to Italy by Lucullus after his defeat of Mithridates, king of Pontus, sixty-eight

years before Christ. The corone cherry, or gean tree, appears to be indigenous on the Mediterranean coast and in Central Europe, including the British Islands.

The common cherry seems to be a native of both hemispheres. The gean tree differs from the common cherry in having the fruit adhere firmly to the stone or nut, and also in the greater size of the trees. The fruit of the cherry supplies the inhabitants of some parts of France with a principal article of food, especially the wood-cutters and charcoal burners of the forests, and among their modes of preparing it is that of making it a principal ingredient in soups.

The grape vine grows spontaneously in western temperate Asia, the south of Europe, Algeriea and Morocco, but it is especially in Armenia, in the south of Caucasus and south of the Caspian, that it grows with the most vigor, climbing to the tops of the loftiest trees and producing an abundance of delicious fruit without pruning or cultivation. Of course it is a question whether the plants found there as elsewhere are not sprung from seeds carried from vineyards by birds, as dissemination by birds must have begun very early, as soon as the fruit existed before cultivation and perhaps before the existance of man in Europe, or even in Asia. Nevertheless, the frequency of cultivation, and the multitude of forms of the cultivated grape may have extended naturalization and introduced among wild vines varieties which originated in cultivation. Probably the Cochin China grape vine originated in this way. In its native state it has been found in altitudes varying from 100 feet to 3,000 feet above the sea level, producing everywhere an enormous crop of fruit. In Cochin it grows in some forests as high as 100 feet climbing up and around lofty trees, or stretching on the soil, and in some places the vine become a wonderful mas of large clusters of luscious grapes from top to bottom.

This variety of wild grape is so remarkable that the seeds have been distributed among 800 persons in various parts of the state of California, and no pains will be spared to acclimatize this wonderful vine on the Pacific coast.

A vine similar to this, but more vigorous and productive,

was lately discovered on the coast of Giunea, by Lenor Arpore, chief of a scientific mission sent to that country by the Portuguese government. The plant was found to be about four feet high, with a crop of grapes varying from 90 to 100 pounds on each vine. The fruit was delicious, and the wine made from it by Arpore and his companions was found very good, rich in aroma, in color and alcohol.

The Soudan and Guinea annual tuberous vines are of the same genus as the Cochin China, but the first is a dwarf, and the second is little better as compared with the last named.

Seeds of grapes have been found under the lacustrine dwellings, at Castione, near Parma, which belong to the bronze age, in a pre-historic station on Lake Varese, at another lacustrine station at Wangen, Switzerland. Vine leaves have been found about Montpellier, where probably they were deposited before the historic period, and in those at Meyrargue, in Provence, which are certainly pre-historic, although of a date subsequent to the tertiary epoch of the geologists.

In Egypt, the records of vine culture reach back 5,000 or 6,000 years, but the Chinese were not in possession of the plant before the year 122 B. C.

The earliest accounts of the manner of cultivating the vine are by the Roman authors, Virgil and Columella. The vine was introduced into the south of France as early as into Italy. It is said to have been brought into Marseilles by the Phoceans about 600 B. C.

In Italy, in the year 81, the Emperor Domitian fearing a scarcity of corn, as so much of the land was occupied by vineyards, issued a restrictive or prohibitoy edict which was long continued in force through fear that the abundance of fine wine might tempt the Barbarians of the north to invade the country.

Of our own native varieties, the Fox-grape is the most similar to the cultivated grape. It is common throughout the greater part of North America, and is found as far north as Quebec. They are capable of much improvement by cultivation.

The Chicken grape is not found north of latitude 42°, has smaller berries with more agreeable flavor. Then there is the Bullace grape, found only as far north as latitude 39°, has larger grapes than any other American species, and of agreeable flavor. There is also a species with small nauseous berries, and one found growing abundantly on gravelly banks of rivers in the western states which has exquisitly fragrant flowers.

The first attempt at the culture of the vine in the United States for wine making was in Florida, in 1564.

Since I commenced the study of the grape, I have learned what possibly you all know before, that is, that the dried currants of commerce were not currants at all, but a Corinth grape, so called from the city of Corinth, Greece, in the neighborhood of which city they were first cultivated.

They are small, round, with a thin skin, without seeds, and very sweet, and are either red or blue, are simply dried in the sun on the ground and then packed into barrels.

We have seen in the history of the origin of these various fruits how much their commercial value has had to do with their continued propagation.

"It is ever thus," as Burdette would say, the dollars that can be made are the standard that measures their importance and value, yet aside from this, it must be admitted, in view of the fact, that there is not in the entire range of husbandry, a study as varied and full of interest, as that of horticulture, and when we may learn to devote ourselves to its pursuit, independent of the dollars that we would have it yield, then may we attain to a better appreciation of its possibilities as a source of pleasing occpation.

So intent do we become, however, with the Yankee proposition, that necessity compels us to consider, to-wit, does it pay, that we are, not inclined to extend our research and experiments beyond a known paying limit, notwithstanding by entertaining strangers in this respect we may often entertain angels unawares, an instance of this kind occurring in the case of a lady who experimented in the cultivation of prunes brought from France to California, and found a fortune in a grove she cultivated.

Mr. Plumb — I wish to offer a thought in encouragement of the Wisconsin State Horticultural Society. You know it is somewhat stereotyped for me to claim to be the pioneer of this part of the programme of having ladies read papers to be published in the volume of the report. Last spring I was visiting in Missouri and was looking through a gentleman's library. I saw the Wisconsin volumes arranged right along in a string, right up in his library. I said, What earthly use are they for your work. "Why, I prize them very highly," he said. He is engaged in civil engineering, and also is the city engineer. "Why," said I, "there is nothing in there in your line." He said, "There is where I get amusement as well as instruction. Your Wisconsin reports have something that I don't get anywhere else." Said I, "What is it?" Said he, "Why, those admirable ladies papers." He spoke for the next volume, and a volume of the Agricultural Report was sent to him by Secretary Babbitt. I received a letter from him a few days since and he said, "Be sure the Wisconsin reports shall always have a place, and I hope it will be filled, in my library." In many states these volumes, with these ladies' papers, as well as briefer papers, are stored up with a great deal of care. When the time comes a resolution will be offered to that effect.

President Smith — I would like to make a remark with regard to these volumes. A gentleman of Massachusetts came to me, and asked me if I could get him one of the volumes of the report. He wanted to send it to his father. He said, "There is nothing he is so anxious for in the line of horticulture as your Wisconsin Horticultural Reports." I said, "What is it that interests him?" He said, "It is the reports of the ladies. He never read anything that equals them in the line of horticulture." I don't know the gentleman but I presume he has got the report.

The report of the committee on resolutions was now received as follows: Favoring Providence having given most delightful weather, and the citizens of Janesville a cordial reception to this summer meeting of the Wisconsin

State Horticultural Society, thanks for the same are hereby tendered.

And also, to the local committee for their efforts in preparing for this meeting, and especially to G. J. Kellogg, Mrs. J. G. Williams, Miss Gertrude A. Kellogg and Miss Carrie Lee, of Janesville, for their successful labors in the way of decoration,—thanks.

Resolved, That the thanks of the society should be returned to the ladies who have added so much of interest to these sessions, by the essays furnished, namely to Mrs B. K. Towne, of Chicago, and Mrs. Willard, of Depere, and also to Mrs. J. B. Day, of this city, for her eloquent readings, and that they be made honorary annual members of this society.

Resolved, That the thanks of this society be tendered to Miss Bertha Schuell, of Janesville, and that she be made an honorary member of this society in recognition of the splendid collection of roses presented to this society.

Resolved, That the thanks of this society be tendered to the C. & N. W. and C., M. & St. P. R. R. Co's., who have granted reduced return fare to persons attending this convention.

Mrs. J. B. Day now favored the meeting with a selection entitled, "The Old Mill Wheel."

Then followed a discussion on "The Work of the State Horticultural Society."

Mr. Plumb —I will very briefly introduce the discussion. I have been connected for so many years with this society that I make inquiry year by year, what is the work of the Wisconsin State Society? That we have done a good work none will deny, but that we have done it all none will claim. There are new fields to be explored and new experiments to be made. There is room for every member, as has been said, to do something in the way of experiments. That is not what I want to speak about though. That is individual work. We have another work to do in spreading this gospel of horticulture in distant parts of the state. One-half of the state of Wisconsin is practically without orchards to-day. Now the question for this Horticultural Society to meet, and one which, individually, Mr. Tuttle and others are trying to meet is, shall the other half of this state be furnished with apples of their own growing? I believe it will. Not that it shall have a full supply at once,

but wherever man lives in the state of Wisconsin they will have apples, apples very satisfactory for all purposes; and so with the whole range of small fruits. That is the work of this society. Again the work of the society is to enlighten the people so that when A, B and C, among the farmers, seek light they will go to the Wisconsin Horticultural Society for it. They will look to its recommendations and assurances. There is a work for the State Horticultural Society to do and we should be careful that it is well done and carefully tested. Further, I believe the people of Wisconsin are looking to the Wisconsin Horticultural Society for some relief against pirate treemen. This is particularly what I want to speak on, and I should like to speak on it about 30 minutes but time will not admit. This question is one of particular importance. At least nine-tenths or 90 per cent. of the trees planted in the state of Wisconsin are grown outside of the state. I refer to all classes of trees and all classes of planting. It is safe to say that of that 90 per cent. brought in to the state of Wisconsin at least one-half and perhaps a larger proportion is totally unfited for the climate and soil of the state of Wisconsin, and these are sold by foreign tree peddlers who have no interest in the state except simply to draw all the money from it. It is not necessary perhaps, that I should call names. I will give you an example: Two years ago in just 20 days, and I am ready to fortify every statement by witnesses, in just 20 days in one town in Rock county, five men sold $2,000 worth of trees. It was stated that these trees were to come from Sparta, Wisconsin, but on inquiry a few months later I made up my mind that the larger portion of the $2,000 taken from the town of Clinton left no value received. Now this is repeated in a hundred townships in the state of Wisconsin, and perhaps in five hundred townships in the state of Wisconsin. Almost every week there come letters to me asking, cannot you do something to prevent this? A letter came to me last week from a man who ought to be here to testify on this question. He says: Is the agricultural press of this state sold to the tree peddlers of Ohio? Again

he said: Is the Wisconsin Society so bound up that it has nothing to say against this. These words come from F. K. Phœnix. One firm in Chicago has 500 men in the field and at least 25 or 30 men in the state of Wisconsin, and said one of the members of this firm, one of the best horticulturists in your state stands at my back to help me in my enterprises. By our caution we headed off that man from becoming a vice-president of the American Horticultural Association. But lo and behold a little while after came out a circular with Mr. George Peffer entirely ignored, and with the other man's name substituted in his place. In a few hours he received a circular from Mr. Z. K. Jewett, I will tell his name, advertising his name as vice-president. As soon as I received this I sat right down and wrote a letter of protest which is to be sent up to the American Horticultural Association held in Washington to-day. To make the story short I have only told you of one of the pirate tree peddlers that come into this state. I did not intend to open this discussion. There are other men who know as much about it as I do. The question is, has the Wisconsin Horticultural Society nothing to do in the line of lifting its hand and say we have nothing to do with this kind of work. I have no resolution yet but could prepare one in a very few moments.

Mr. Tuttle — I wish to say with regard to that firm that they have sold extensively in Wisconsin and Minnesota under the claim that their trees are grown at Sparta in this state. Now Sparta is a pretty hard place to grow trees. There used to be a nursery there but it is a very hard place to grow trees. I believe there is no place in Wisconsin colder than Sparta, and any tree that can be grown successfully at Sparta can be grown safely all over the state, and that impression has gone out all over the state, and for that reason they are using Mr. Z. K. Jewett as a stool pigeon. Mr. Jewett has no trees except some grafts that are one year old. He has no fruit trees. Upon this claim they have sold this stock at enormous prices. This has been because he has lent himself to do the dirty work of this company.

Mr. Ring — In connection with this work I would say that

I have received several letters asking if Z. K. Jewett had a nursery of native trees and was filling orders, and I had to answer that he has not had any trees of the kind for eight or ten years. He once had a nursery, but it has gone to grass, but he set a few grafts a year or two ago. He gets shipments from other places and I suppose he reships, but he has not had for ten years any native trees. He advertises in the papers as the agent of the Sparta branch. That is quite cheeky, but not quite as cheeky as it is to write to the president signing himself as vice-president. Any man that would do that would sell trees and assert that they were from Greenland.

Mr. Tuttle — I don't think there is much remedy for this thing myself. I don't like to say much about it for I am in the business of tree selling. I think people like to be humbugged. Large prices are obtained and trees are put off that are worthless. I don't know as it can be helped. I don't think it can. People will continue to buy.

Mr. Phillips — I don't think there is any use in spending any great amount of time on this subject. Mr. Jewett has sold trees within five miles of my home, and advertises himself as home agent. People ought to know and perhaps do know, that he hasn't had trees for five years. I should like to say a word as to the work of the society not mentioned here. That is this, while these experiments are all right, thare is one branch of the work of the society that has been somewhat neglected and that is the part of the work in getting the young, the boys and girls, interested in the work of the State Horticultural Society. Enough has been said as to the reports by the ladies of the society which have been complimented by all who read the papers. After such papers as were read last night these books should be in the libraries of every farmer of the state, and before we send them to the southern states or any other states we should supply our own state. We should all try to interest the children more. In the Walworth county fair the children are given a chance. It inspires them with ambition. Give them the money they get as premiums. We ought to go to the convention and report something each year. Let each

individual member do something in the way of encouraging the children. Let us put in some premiums for the children another year. After a while these older ones like Kellogg and myself will have to give up. We want some younger ones. That is one work of importance, I think.

Mr. Stickney — I think we ought to put ourselves on record as to this tree peddling business. I think we owe it to the people to make an expression on this subject. It will amount to just this, that the people who read the report of the meeting through the papers and our volume, will clear our skirts of responsibility. I think we want to pass something in that direction. One thing more, are there no papers at Sparta?

Mr. Ring — There are three.

Mr. Stickney — What are they good for if they don't expose that thing?

Mr. Ring — Nothing. I think, though, if we pass a resolution here, it will be published in the papers there.

Mr. Stickney — Wherever a paper is published and this business is going on in a county, the paper most circulated in that town, is the medium in which to circulate that information, and if no one has interest enough to circulate the report of it you have nothing to complain of. Something of that kind ought to be on record for our own benefit. It may be exposed every month for a year and not suppress it Half the people do not read and do not think, and the agents are always ready with a bigger lie.

Mr. Ring — I would suggest that these exposures have been too gentle.

Mr. Stickney — It is only two years since the head and front of this thing was President of the Nurserymen's Association of this country.

Mr. Phillips — There is one thing I wish should be embodied in that resolution. I don't think we should pass over without some action the action of this man in shoving aside such a man as G. P. Pfeffer and keeping him at home while the other man is sent to Washington. I think we are like the woman who went out with the tongs, we can show which side we are on.

Mr. Stickney — These things are personal and we ought not to put ourselves into these personal matters. I think Mr. Pfeffer is at Washington and can see to the matter.

Mr. Ring — I think not. He told me that he could not go and should be here. I venture to say that I think we shall hear that Mr. Z. K. Jewett will be the vice-president. A motion was made at the time of the appointment of vice-presidents about this matter, and Mr. Plumb objected to the appointment of Jewett, and I and several others seconded the motion.

The resolution on this subject under preparation by Mr. Plumb was now called for.

Mr. Plumb — We determined last year that Mr. Z. K. Jewett should not represent this state in convention any more. It was unanimously decided that Mr. Peffer should be our representitive hereafter. It was done on the ground that Z. K. Jewett was not a suitable representative. It has been said to me by eastern men, Why do you send Z. K. Jewett if you don't want him. I want to say another word although I may be cut off. The *Western Farmer* had a threat of prosecution hanging over it for three months because it published certain articles. Mr. Albaugh sent aletter for publication. They told Mr. Albaugh if they published his letter they should also publish several letters from farmers. The *Farmer* said they guessed they had better not make any further publications in this line. If the Wisconsin Horticultural Society will take a stand on this then all right.

Mr. Plumb now read the following resolution:

WHEREAS, The Wisconsin State Horticultural Society is organized for the benefit of the horticultural interest of the state in advocating every good thing and condemning every injurious measure; therefore be it

Resolved, That we do most earnestly protest against the dishonest practice of tree agents who we have reason to believe are and have been for years back deceiving tree planters of this state by pretending to sell them trees grown in Wisconsin while they deliver them stock which was grown in a climate entirely foreign; and without any show of successful growth and fruit bearing in this state, — so much in general; and we have especial reference to what has been advertised as the "Chain Nurseries Company," of Ohio, Illinois and Sparta, Wisconsin, and all similar practice which prevails in this state and the west.

Mr. Plumb also offered a third resolution which condemned the action of the American Horticultural Associa- in recognizing Mr. Jewett as vice-president in place of Mr. Peffer. In speaking of this resolution Mr. Stickney spoke as follows:

Mr. Stickney — Now with regard to that last. How do you know that the nurserymen of the American Nurserymen's Association has accredited and will receive Mr. Jewett as our vice-president? That he has gone there we know of course. If he is on the records as Wisconsin's vice-president, he will be received; but we have reason to suppose that he is on their records. He has simply gone there with the usual cheek and assurance to take that position. If he is not on their records he cannot take that position.

Mr. Plumb — I assure you he is on there as you can see from their last report.

Mr. Ring — I wrote to Mr. Scott, of Galena, expressing my surprise that Mr. Jewett should be reported as vice-president of the association. He wrote me that he could not see about all the reports, although Mr. Jewett is put down at Pewaukee, showing that is a plain error.

Mr. Stickney — Still I think we ought to have nothing to do with this personal matter. By meddling with that, if it is only a personal matter between Jewett and Peffer, although we are all interested in it to be sure, to the outside public it looks like a personal matter. If we wish to censure that action at the next annual meeting, we can do so. Perhaps we shall have Mr. Jewett with us then and can put the blame where it belongs. We don't want to squabble with the American Association, and we shall lose nothing by dropping it. [The resolution, by request, was read again.]

The first resolution was carried unanimously.

Mr. Plumb — With regard to the second resolution, I am in favor of it.

Mr. Stickney — I am only one, and don't want to dictate, but only earnestly suggest, and I think we should vote upon it.

[The second resolution was now read.]

Mr. Kellogg offered a substitute for the resolution. It was said that this resolution would be too late, and Mr. Kellogg withdrew his resolution. Mr. Plumb's second resolution was now voted upon, and lost.

Mr. Stickney — Now, Mr. President, I notice the name of Mr. Jewett on the list of members. If you wish to do it, you can expel him.

Mr. Plumb — I have too much regard for this society to take any such action as that. If he will come up to the annual meeting and face the music it is all right. But I know a little more about this perhaps than some of you. That Mr. Jewett has a show of reason, if there could be any reason, for these circulars were furnished him by Mr. Scott, and he would very naturally circulate these circulars if he had them from the secretary.

President Smith now read a letter showing that Mr. Jewett has been acting as vice-president for the state of Wisconsin.

Mr. Ring — It seems to me that if we fail to rebuke that piece of usurpation we virtually endorse Jewett.

Mr. Stickney — I don't regard it in that way at all. I think the error in the main is with the secretary of the American Nurserymen's Association.

Mr. Ring — But it is an error of Z. K. Jewett's as well, for he and his wife were present at the meeting.

Mr. Stickney — That is very true, but after all he may not have known of it all until very late, and may not have had time to correct the error. The collection of the information desired may have been of so great value as to require that he act as vice-president. The error is not solely with him nor perhaps all the blame.

Mr. Plumb — It would be better not to have said anything about this matter at all. Virtually we have endorsed the action of Mr. Jewett in sending out these circulars. I offer this resolution:

WHEREAS, Word having come to us of the action of the American Nurserymen's Association accrediting Mr. Z. K. Jewett as vice-president of said association for the state of Wisconsin, ignoring the election of Mr.

Peffer to that position, such action does not meet our approval; and hereby be it

Resolved, That our executive committee be instructed to take cognizance of that action and report at our next meeting.

This resolution was unanimously carried.

A motion was made and carried that those remaining in the city should meet at the hall at 7 o'clock to attend the sale of fruit and flowers.

Mr. Stickney now gave a short talk on tree injury by insects.

Prof. Seymour being called for read the following paper:

THE MAPLE BARK LOUSE.

BY PROF. A. B. SEYMOUR, OF WISCONSIN UNIVERSITY.

The Soft Maple trees in the vicinity of Janesville, Wis., are reported to be suffering seriously this year from the Maple Bark-louse, and at the request of a prominent member of the State Horticultural Society, residing at that place, I have compiled the following facts. They are chiefly from the excellent paper upon this subject, by Miss Emma A. Smith, of Peoria, Ill., in the Seventh Report of the State Entomologist of Illinois.

All bark-lice belong to the order of the true bugs, as distinguished from other orders of insects represented by beetles, wasps, flies, etc., which are not true bugs. The true bugs include, with the bark-lice, such other kinds as the Squash-bug, Chinch-bug and ordinary plant-lice.

There are various kinds of bark-lice, certain of which have at times wrought serious injury to the apple and pine, but most species do not occur in great numbers; that of the Maple is rather exceptional in this respect.

The Maple Bark-louse, *Lecanium acericola*, was first recorded by Walsh and Riley in the *American Entomologist*, volume I, page 14, as received June 26, 1867, from Indiana. Later, its life history was studied by Mr. J. D. Putnam, of Davenport, Iowa, and, in 1877, similar investigations were

made by Miss Emma A. Smith, of Peoria, and her results were published in the paper referred to. By that time the insect had spread widely over central and northern Illinois, and was doing serious injury. Its ravages have continued since that time with fluctuations. In some places it has disappeared, and in some of these, as Bloomington, it has reappeared in full force.

LIFE HISTORY.

The Bark lice are seen in spring, fixed lengthwise to the under side of branches. Each house looks like a dark-colored scale covering what appears to be a cottony mass. This is the female insect. During the latter part of May the eggs are laid, and in about three and a half weeks they begin to hatch and the first young lice appear. As soon as they are hatched, they move about actively and crawl to the leaves and most of them attach themselves to the under surface near the midrib and principal veins. Some are found on the upper surface, but the under surface is more favorable to their growth, because the epidermis is thinner there, more easily penetrated by their delicate beaks, and they are also better protected. By the beginning of July (in Central Illinois) nearly all the old lice on the branches are found to be dead, and most of the new brood have attached themselves to the leaves. During the summer they increase in size and become gradually darker in color. If undisturbed they remain inactive, but if the leaf is picked from the tree, they withdraw their beaks and move about in search of a new place to feed.

When young, the males and females can not be distinguished, but after a few weeks the males stop growing, go into the pupa state, and then come out with wings. The first males were observed by Miss Smith about the middle of August, and continued to appear for over two weeks. Each individual probably lives only a few days and they are comparatively few in number. During this time fecundation takes place and the development of eggs begins; but they are not matured and deposited till the next spring. There is some reason to believe that as in ordinary plant

lice the production of male is not necessary and does not take place for every brood and that increase in numbers is more rapid when the male is absent; and this is not at all impossible. But Miss Smith thinks her observations do not support this view.

Before the fall of the leaves, the insects remove to the branches and attach themselves permanently by inserting their beaks into the bark. During the winter they lie dormant, and in the spring the eggs are matured, to be deposited during the latter part of May. "Early in the month of May the attention is attracted to the ground or sidewalks, underneath the affected trees, which is covered with spots similar to honey-dew, the lower limbs and opening leaves presenting a sticky sensation to the touch, which continues to be noticeable for something over one week before the deposition of eggs commences." This is explained to be either an exudation of sap from numerous punctures in the bark, or, more probably, a secretion from the insect itself. The deposition of eggs completed, the insect withdraws its beak from the bark, and dies about the beginning of July, having lived a little over a year. It still adheres loosely to the bark by means of the cottony mass.

MODES OF SPREADING.

It is not difficult for a mass of eggs to be blown by the wind from one tree to another, and the young may easily crawl upon other insects or birds and so be carried. The most probable way apparant for spreading over great distances is by being carried in shipments of young trees. But these conjectures do not seem sufficient to explain the facts.

REMEDIES.

The fluctuation in the course of nature when such an insect becomes greatly multiplied,is in any case very small compared with the steady flow of the great stream of life; it is no more than a mere ripple on the surface. And nature never allows any variation to go greatly beyond bounds. If it could, weed or an insect might continue to increase and at length overwhelm the earth. There are always natural

checks. Sometimes various insects may multiply to such an extent as to exhaust their peculiar food supply, and in consequence become themselves reduced suddenly to very few. More commonly, as in the present case, an insect has its natural insect enemies, which multiply rapidly as their food increases and so check the depredations of their hosts by eating them up.

The Maple Bark-louse has several insect enemies. One is a minute parasite belonging to one of the lower groups (Chalcididae) of the wasp order. It lives within the body of the adult Bark-louse, which it kills and leaves in the spring.

Beetles of the Lady bird group are very useful in in destroying other insects. Three species of Lady-bird beetles prey upon the Bark-louse. One of these, *Chilocorus bivulnerus* sometimes appears in great numbers upon and under infested trees, crawling over adjacent fences, sidewalks, etc. It looks almost like a little hemisphere, but considerably flattened, black, with two red spots (whence the name *bivulnerus*, twice wounded).

Before attaining their mature state, they appear as short, dark colored larvæ, covered with short spines. In both states of development, they eat the young lice.

Another kind is *Hyperastis signata.* The larvæ are smaller than those of the preceding, light-colored and covered with down. The mature state is similar to that of the preceding, but smaller. The larvæ live in the egg masses, one in each, and eat great numbers of eggs.

The fifteen spotted Lady-bird, *Anastis 15-punctata,* larger but less plentiful than the other two, is also destructive to the Bark-lice. The larvæ are about half an inch long and bear six rows of spines. The mature beetle has a black head and thorax, the remainder of the back brownish-red, marked with fifteen black spots. Length of beetle about one-third inch.

ARTIFICIAL REMEDIES.

In some cases it may be necessary to remove badly diseased branches. Miss Smith made practical experiments with remedies, and the following recommendations are given: When first hatched, the lice are very tender and

any weak solution will destroy them. By experiment it was found that White Hellebore when used in solution of about one pound to twenty gallons of water would soon kill them; a solution of tobacco and soap in water is also good. These may be thrown upon the under surface of the leaves with a fire extinguisher, or something similar. A kerosene emulsion ought to be effective.

Great care should be taken to avoid injuring the insect enemies of the bark lice, but they are not likely to be injured by weak solutions. The bark lice are very difficult to kill when older and fixed to the branches.

Trees to be transplanted should be thoroughly examined and all traces of Bark-lice should be removed.

The convention now adjourned *sine die*.

TRANSACTIONS

OF THE

ANNUAL MEETING

HELD BY THE

Wisconsin State Horticultural Society,

At Waukesha, February 16, 1887.

Meeting called to order by President J. M. Smith at 2:30 P. M., February 16, 1887.

Pres. J. M. Smith — The first thing upon our programme is an address of welcome by Mr. Cook.

Mr. A. Cook — Mr. President, ladies and gentlemen of the Wisconsin State Horticultural Society, by the partiality of my associates in the adjunct to the Wisconsin State Horticultural Society, the Waukesha Horticultural Society, it devolves upon me to greet you upon this your first meeting in our midst for many years. The object of your association is of a high and ennobling character. None less than the instilling and fostering of a love for plants and flowers, and a general knowledge of horticultural science in the human mind. Your labors are assisted, it is true, by the labors of other organizations in other states, for the fact is not to be overlooked that the societies in other states have brought to bear an influence within the limits of our state, as your efforts in like manner have spread beyond your own borders. In thinking over the subject of horticultural improvement and development in our own state, it is but necessary to revert to a period far short of a century back to see the con-

ditions then. Then the wayfarer might have traveled over this state and have seen only exceedingly few of the annual flowering plants and shrubs. Now you may travel the state over, and in the season of plant bloom wherever you are within the limits appropriated to human habitation, you will see the influences of horticulture.

I do not know, Mr. President, who was the author of the aphorism that God might have made a more beautiful flower than the rose and a more pleasant fruit than the strawberry, but the truth was that He never had done it. To that I think we may add that doubtless God might have implanted in the human breast a higher and more ennobling sentiment than a love of plants, fruits and flowers, but the fact remains that He has not done it. In considering the question of the development already attained in horticultural science, I have frequently asked myself the question, when in point of time and where in point of development shall this thing cease, if cease it does while earth continues to yield her fruits in response to human efforts and skill. I to-day stand here in 1887, surrounded by the improvements that have been brought about in horticultural science from the time of our fathers. You, by your labors, have removed obstacles and pitfalls from the pathway of horticultural improvement, and your successors in the meantime will remove still more, and the generation that stands where we now stand in 1987, on the threshold of a new era, will see a vista opening and extending onward and upward before them, filled with obstructions to be removed by them and their successors.

Mr. President, I am admonished that whatever time I may occupy here will be abstracting just so much time from what is set apart for your other and more important exercises of this meeting; therefore it but remains for me, in the name of the Waukesha Horticultural Society and the citizens of this village, to extend to you a cordial greeting, and to express to you that at no remote future period, when the genial sunshine will better enable us to exhibit to you the evidences of our improvement in horticultural science in our village and its surroundings, and to hope for the pleas-

ure of meeting you again and at a time when our society shall by its increased membership and more perfect organization be enabled to extend a more fitting hospitality, but in the meantime Mr. President, and ladies and gentlemen, we bid you God speed in our ennobling efforts.

Pres. J. M. Smith — We have, in response to this address of welcome to which we have listened, called upon our friend Mr. B. F. Adams, one of our old and respected members, to reply.

Mr. B. F. Adams — Mr. President, ladies and gentlemen, in reply to the kind words of welcome which you have just heard, I would say that in behalf of the members of the State Horticultural Society, it is my privilege to express to you our heartfelt thanks. We have come here from various sections of the state to greet each other in our annual meeting, and we invite the citizens of Waukesha and the members of the Waukesha Horticultural Society to unite with us in making each day's sessions replete with interest.

More than forty years ago I visited this locality, which then, if I remember right, bore the name of Prairieville. Since that time a generation has come and gone. The wilderness west of Lake Michigan has been changed into fruitful fields, and the little town then existing has grown to be a place of several thousand inhabitants, noted for its public institutions, its wells of health-giving waters, and above all for its intelligent, enterprising and thrifty population. We are glad to meet you here. The mission of our society is not only to cultivate and advance the science of pomology, but to create and stimulate a taste among our population for general and progressive horticulture. For this object we labor. We now have reached a period of growth and prosperity which demands more cultivated tastes and a greater number of homes throughout the state indicative of culture and refinement. To secure these objects we maintain the state organization; broad in its scope, earnest in its work of gathering information and imparting instruction upon all matters relating to horticulture in its broadest sense, the cultivation of fruits especially adapted to Wisconsin and the northwest, the cultivation of the vege-

table garden, the growing of trees, useful and ornamental, the beautifying of homes, and the general improvement of the rural landscape.

Of course we have met with many discouragements; and it is not an uncommon occurrence, as you all know, that after we have witnessed the growth and fruitage of a valued tree with high hopes, to be called upon to mourn its death. The icy blasts of winter sometimes play havoc with our fruitful trees. But the majority of our Wisconsin horticulturists possess an enthusiasm that the colds of winter cannot kill or the heats of summer overcome; and I may add also that this enthusiasm not only keeps them warm in winter time at our winter meetings, but until summer comes clad in her garments of warmth and beauty. I will say, however, if any class of men need enthusiasm I think it is those who have experienced the mildness and severity of forty-one winters in Wisconsin. If there is any class of of men who need enthusiasm, patience, zeal, faith, and some other of the Christian virtues, it is the fruit growers of the northwest. But they have got it; and if the theory be true that where the wild crab and the wild plum are found, native to the soil, there, ultimately, the patience and skill of civilized man will bring foreh improved varieties that will endure; there is hope for the northwest. In the meantime our impatient population will do well to plant an abundance of small fruits that will thrive in our soil and bear the changeable climate.

The reception that has been given us here gives the strongest assurance that our meeting will be profitable and pleasant, and that a remembrance of the sessions and the social interchange of thought will go with us to our homes.

Again thanking you personally and the people of Waukesha you represent, I bid you all welcome to our daily sessions and a participation in our deliberations.

President J. M. Smith — The next thing is the president's address, but I think the society will not suffer if it is not read. To tell the plain truth it is not here and we will omit it and call upon the secretary, who seems to have more papers than he knows what to do with.

SECRETARY'S REPORT.

In accordance with the sentiment expressed at our last annual meeting, the report of the society for 1886, was completed and printed, ready for distribution last May. Under the law of 1885, twenty-five hundred copies are bound separately in cloth and one thousand in paper, making thirty-five hundred volumes subject to the order of the society. Thirteen thousand five hundred of our reports are bound in a combination volume, containing the report of the State Agricultural Society, the report of the Dairyman's Association and the report of the State Experimental Station. This combined report is distributed in the main by the Agricultural Society. It would seem to be a proper thing to do to give the Horticultural Society control of its own reports. Ten thousand copies could be used to good advantage. The present method of distribution provides a copy to each member of our society, fifty copies to each local society, exchanges ranging from ten to twenty-five volumes each, with Horticultural Societies of other states and a general distribution at farmers' institutes. The institutes furnish a most efficient means for the circulation of horticultural literature among the masses of the people. The demand at these meetings is very much greater than the supply.

With little or no additional expense to the state, this society could have what it needed of its own reports by withdrawing them from the omnibus volume now circulated by the State Agricultural Society. The report proper of that society, needs no outside additions to make it valuable. Their report, like our own, can, and should stand upon its merits. I call your attention to this matter that you may take such action with reference to legislation upon the subject as your judgment may dictate.

MEMBERSHIP.

The value of the work done by this society is dependent upon the character and extent of its membership.

Our present membership is composed almost exclusively of practical gardeners and fruit growers. They have been intelligent, earnest and active in advancing the horticultural interests of this state, still they include only a small portion of the men and women who should assist in this work. We have now more members than ever before, but we have only one where we should have ten. We weed the stimulus of numbers to give breadth, life and fire to our meetings. We want more pickets on the skirmish line of observation. The work of the society is useful in the collection of facts rather than in the propagation of theories. With a larger membership we can obtain more complete data upon which to formulate our judgment. One tendency of the present system of distributing our reports is to limit our membership because we do not confine the distribution to members but make it general. No person will now pay the membership fee of one dollar for the purpose of obtaining a report as it can be had for nothing. There is no remedy for this. The society owes it to the state which generously sustains it with financial aid that its reports should be freely distributed.

The work of extending our membership, which I regard as most important must be carried on mainly in the line of individual effort. Persuasive circulars sent by the officers of the society, and even general society work of clearly defined usefulness have little effect as compared with persistent, energetic effort upon the part of our members to induce others to join in our work.

MEETINGS.

It has been the policy of the society for several years to hold two formal meetings each year — the winter meetings at Madison, for election of officers and transaction of business, and a summer meeting and fruit exhibition, at such a place as might be determined by the society or its executive board. The summer meetings held at different points have greatly extended the influence of the society, awakened a new interest in horticultural matters, and given us many new and valuable members. The winter meetings at Mad-

ison, have been held under marked disadvantages. They have occurred at the time of meeting of the State Agricultural convention. Many of our members divided their attentions between the two and the consequence was a fluctuating, uncertain attendance and a total lack of outside interest in our proceedings. The law fixing the date of our annual meeting has been changed by the present legislature, and we are now at liberty to hold it at such time and place as the society may select. If the winter meeting could be held early in December, we could then have a much finer and more complete fruit exhibit than under our present arrangement. It would then be possible to issue our annual report shortly after the opening of the calendar year. The summer meeting held last June at Janesville, was a gratifying success. The feature most worthy of note was the exhibition of F. W. Loudon's seedling strawberries. Some remarkable berries of this class were exhibited — remarkable for beauty, size and productiveness. It is not the province of this society to give undue notoriety to any new variety of fruit, but it is part of its duty to describe what it sees in the line of horticultural experiments. The work which Mr. Loudon is doing with strawberries is the work which must be done to give us larger and better berries. His labors are fairly entitled to the hearty appreciation of all lovers of horticulture.

EXPERIMENTAL WORK.

At its last annual meeting the society appointed a committee to confer with the professors in the agricultural department of the state university, and the board of regents with reference to beginning some experimental work in horticulture upon the university farm. Professors Henry and Armsby expressed entire willingness to aid in this work, but united in saying that the location of the farm was such that little or no fruit could be raised and secured because of lawless trespassers.

It was finally decided that a trial would be made of the effects of three kinds of fertilizers on three varieties of

strawberries upon a variety of soils. Twenty-five pounds of the muriate of potash and twenty-five pounds of bone dust were sent to eight members of the society with the following instructions: "Lay off a plat of 12 square rods; leave 3 rods unmanured, put upon 3 rods unrotted barnyard manure at the rate of 80 loads per acre, plow and harrow the remaining 6 rods and apply the bone dust as a top dressing to one-half and the muriate of potash to the remaining 3 rods; plant one rod of each of the four plats to Wilson, one rod of each to Manchester, and the balance to Crescent; plant in rows 3 feet apart and 18 inches in the rows." This is a small beginning, perhaps, but it is something. A large portion of the experimental work in horticulture must be done by trained scientific men. The average practical man is not exact enough. He does not understand conditions. He jumps conclusions. The problems of horticulture are, many of them, worked out only through long years of patient, persistent, concentrated effort. Men in active business have not the time and have not the money to do this work. If experiments in horticulture cannot be carried on at the state university, the work should be done at some other point. It should be under the direction of Prof. Henry and his assistants. We can then obtain more definite knowledge about the relative value of fertilizers, the effects of different systems of culture, the best means to be used in avoiding the results of drouth, the characteristics of varieties of fruits and flowers and the methods of changing those characteristics and creating new varieties. We could then have some work done in entomology which would be systematic, intelligent and profitable, plant diseases could be thorougly studied and the influence of climatic variations made a subject of exhaustive research. Scientific investigation is revolutionizing the whole world of agriculture. Horticulture is of sufficient importance to deserve the aid of the state experimental station in keeping it abreast of the advance being made in other departments of agricultural knowledge. It rests largely with this society whether it obtains a proper recognition or not.

OBSERVATION REPORTS.

At our last annual meeting the number of observation districts was increased from nine to fourteen. Printed blanks for reports have been distributed to the members of the committee on observation. The result has been more and better reports. This portion of our work is of vital importance. If the number of districts could be increased so that each county should be an independent district, represented upon the committee by a live man or woman, our published reports would have ten times the practical value they now have. The report of a year upon Russian apples for instance, from three or ten persons in as many localities, cannot be compared with a record made up by fifty observers, scattered through all the counties of the state. Perhaps the time has not come when the society can so enlarge its work, but the matter is certainly worthy of serious consideration.

HORTICULTURE IN WISCONSIN.

In the early part of last summer occurred the most severe drouth ever known in the state. Fruit trees had passed through the winter in fair condition, and small fruits of all kinds were never more promising than when the season opened; strawberry beds were covered with white blankets of blossoms in May, and a little while later the blackberry rows, even when they had not been covered, blossomed until they looked like long snowbanks dotted with green.

The drouth took all of the poetry out of the situation and most of the profits. Strawberries wilted, blackberries died green on tht bushes, raspberries became so dry and seedy that the birds would not eat them, and even apples were dwarfed and prematurely ripened. Upon rich land thoroughly tilled and well drained, the effects above quoted were hardly discernable. The drouth has taught many of our Wisconsin fruit growers a lesson. It left them poorer in pocket but richer in knowledge. Wisconsin cannot compete with Michigan at the present time, in raising apples. The state is dotted with dead orchards. The friends of the

deceased trees could not bring in an indictment of murder against the climate, without joining as a principal the responsible traveling tree agent. We cannot hang the climate, although we can make remarks about it; but we should crucify the man who sells trees that will not stand twenty degrees of cold. Apples can be raised here. Our orchard products reach a valuation of nearly one million of dollars annually. They are worth ten times that amount in preserving the health and adding to the comfort and happiness of our people. We do not raise enough for home consumption, but the more general introduction of a few of the hardiest varieties, including the new Russians, will supply all of our wants, and in the end make us a competitor of our neighbor across the lake for the northwestern market.

The business of raising small fruit is rapidly increasing in extent. The total acreage devoted to this industry has undoubtedly doubled within the last three years. No western state has equal natural advantages for the development of this branch of horticulture. The rolling surface of our lands give us natural drainage, and our rich and varied soils enable us to utilize great range of varieties. Even in this year of unexampled drouth no yield of strawberries has been reported by any member of this society of less than 100 bushels per acre of the standard varieties. Under the improved methods of recent years the crop has become as certain as that of corn. We are in a location where we can obtain the advantages of the late markets. The cream of the crop of Illinois and Michigan goes into Chicago and Milwaukee, before Wisconsin berries are ripe. The consequence is the regular annual glut occurs and low rates mark is reached in prices before we commence our largest shipments. In the northwest we have an unlimited range and will have for years. With our increase in population comes increase in wealth. More mouths to feed and more money to buy. means the building up of that best of all markets, the one at home.

As the state becomes older and richer its population loses some of the primeval characteristics — the active struggle

for existence still goes on but some of its rougher features have passed away. To our physical strength we are adding mental culture, and the outgrowth of that culture is beauty in home and garden and lawn and field. An active appreciation of horticultural knowledge is springing up among all classes of people. This society can only be true to its purpose by making deeper and broader its work to meet the requirements of an enlightened public judgment.

H. C. ADAMS.

President J. M. Smith — What will you do with this report? Are there any remarks of criticisms upon it?

Mr. B. S. Hoxie — I presume we are to take the larger part of this report as the president's address. There are a good many valuable hints and suggestions in that report that the society ought to consider. The first thing I recommend is in regard to our published reports. I have always been in favor of the society having their own reports separate from the State Agricultural Society. We do not want such a cumbersome volume as we have had, and we certainly want to throw our influence at this meeting against the further enlargement of that volume. We want our own volumes for distribution.

It seems to me that we ought to re-district our state and have reports from each county. I think we ought to have a report from every county in the state. Some of the states have these reports, and it makes a most interesting part of their meetings. It is true every one is not prepared and has not the time or ability to experiment, but we can get enough who have the time and means and intelligence to make these experiments and report on them properly, and we can have the assistance of Professors Henry and Armsby in this work.

President J. M. Smith — Has the corresponding secretary any report to make?

Mr. B. S. Hoxie — No.

Mr. H. C. Adams — I understand that the State Agricultural Society has recently passed a resolution regarding

this question. They object to the withdrawal of our report. I have consulted with the secretary, and he seems inclined to oppose the movement. If any members of this society intend to oppose it, we want to know it. We want a free expression of opinion in this matter. If those who have this in charge are going to do anything they want to feel that the members are endorsing their action.

Mr. A. L. Hatch — I think it would be well to have some standing committees appointed. Not for this session only, but to act from one session to another. We need a committee in regard to legislation and one on experiment station work. What shall we do about it?

Pres. Smith — It would be competent to put it in the form of a motion. I will ask for a motion.

Mr. B. S. Hoxie — I move the appointment of a committee of three on resolutions and a committee of three on legislation.

Motion carried.

Mr. B. S. Hoxie — Mr. President, you inquired if I had a report as corresponding secretary. I have none, but I will say a word. Perhaps you and a majority of the members know that there is a bill pending in congress called the Hatch bill, calling for $15,000 annually for experimental work in different states, and it is to go to the agricultural college where one is located. The bill has passed the senate, and it is hoped and expected it will pass both houses, and if so, we shall be provided with a fund in this state. I am sorry that we have not an agricultural college, and we must take some action in that matter. If we really want an agricultural college worthy the name of the state of Wisconsin, we must be united. They are doing a noble work at Madison. Reports have gone out from there that have been scattered all over the world; but we need a better place to put that money. Should the bill now before congress pass, as I have no doubt it will because communications are coming up from all over the United States. They are all in favor of the work.

I would say in regard to the committee on experiment

stations, the committee appointed at the last annual meeting were expected to make a report now, but Mr. Adams consented to make the report in his. Probably the experiments will be carried on through Prof. Henry mainly. Now in regard to this experiment station work, and the money that may come to the state from congress, we either need to have this committee instructed to act in regard to that, or we need to refer it to this legislative committee.

H. C. Adams — I want to say a word in explanation for Profs. Henry and Armsby. Their situation is this: They have only a moderate amount of land favorable for experimenting, as a large portion of the university grounds is used for a public park you might say. Sundays people come up there and travel all over those grounds, and it is almost impossible to save any fruit raised there, or any flowers or grain. They can get a little corn. These are the facts in the case,

A. C. Tuttle — I do not see anything in the way of having experiment stations all over the state of Wisconsin, and there should be. You cannot carry on an experiment station at only one point to determine what is necessary for the whole state. You must take different soils and different temperatures. They are carried on in Minnesota by men who are appointed in different parts of the state to test fruits. If a man wants his fruits tested he sends them to these stations.

H. C. Adams — Will they carry on continued experiments for a long series of years?

A. C. Tuttle — Yes. You can find plenty of men in the state who will. You go into St. Croix county and there are men there who will take trees and give them any test you want. They take a interest in doing it. It is done in Minnesota and in Iowa, and until we can get this central station for testing these things, I think we ought immediately to appoint men in different parts of the state to test fruits.

Pres. Smith — The next thing on the programme is reports of committees.

Mrs. Huntly will report from her district. (Report read.)

Pres. Smith — The secretary informs me that he has six or eight district reports on hand. It has been our custom for a long time not to have them all read but to have them put into the volume. We can defer them if you like and I would suggest that unless there is something of special interest in these reports that they be deferred. We have an election of officers and other important business before us.

H. C. Adams — Before taking that up I think we have a little time for the discussion of this experimental work. Prof. Garfield is here and I should like to hear from him and see what they are doing in Michigan.

Mr. Garfield — Mr. President, ladies and gentlemen: I haven't anything particular to say upon this subject, and when you ask me what we have done in Michigan, I am ashamed to say that our work has been somewhat imperfect for lack of means. We are hoping something will come out of this Hatch bill, but cannot tell. We have an agricultural college, and it is doing good work. When we have asked Prof. Dale to experiment in matters of horticulture, he has done the best he could in his locality. In the different departments they have been ready to help us. We are in hopes that we can organize in Michigan, in connection with that college an experiment station, and we cannot expect the best results until that station is organized. The experiments that have been attempted have largely proved abortive, and we have had no control over them. People get tired very quickly in making experiments, and some other people get results too quickly. We have failed in a great many cases where we have tried. I think that experiment work done by distribution of varieties, even when sent to the best men we can get, without some central head to make reports to, we cannot expect very good work to come of it. We have found that fruits that do well in the southern portion of the state, may not do well at all in the western or eastern parts; so we need experiments to be made in different localities of the state so that we can get some general information. The State Horticulture Society is aiming to do some work of this kind. We are hoping to do some such work as they are doing in Canada. There, in connection

with the Horticultural Society, for the annual membership fee of one dollar, they send a report of the society, a copy of the *Canada Horticulturist* and also scions of plants, with the request that the members report to the central head. In this way they have been doing better work than any state in the union. We may well model our work after them. I am heartily in sympathy in regard to your having an independent agricultural college. Until you get that institution you cannot expect to get the best work from agricultural schools. That has been the experience of the whole country. I hope you are nearing that point.

The president here announced the committee on legislation to be J. S. Stickney, A. L. Hatch and B. S. Hoxie. The committee on resolutions, George J. Kellogg, B. F. Adams and A. G. Tuttle.

Pres. Smith — Our superintendent on fruit exhibition, it seems, is not present. From what I learn I doubt very much whether he is present during the convention. Unless objections are made, I will take the liberty of asking B. F. Adams to again act for us. He has acted for us many years, although he did it reluctantly. I know you will be pleased to have him act again.

I would suggest that the exhibitors themselves agree upon a committee to act as judges, and I think it would be well for them to meet immediately after the adjournment and appoint their judges. I would suggest that the judges do the work during the intermissions as much as possible.

A motion was carried that three apples constitute a plate.

A. C. Tuttle — At our winter meetings I believe we have admitted exhibitors that were not paid members. I move that at all meetings, if the exhibitors have not paid their membership fee that it be retained out of their premiums.

Motion carried.

H. C. Adams — I would like to inquire from Secretary Garfield what sort of a division they have in Michigan? How many districts do you receive reports from?

Mr. Garfield — Our plan for organizing is that under certain arrangements, any society will become a branch of the State Horticultural Society, and in becoming a branch we

say they must give us a report. We receive reports from every society and we have thirty-three in the state. We have them divided into five districts. This division is rather climatic than otherwise. We have one division, Southern Michigan, another Eastern Lake Shore, South-western Lake Shore, Northeastern Lake Shore and Central Michigan.

Pres. Smith — Have you varieties of apples that are safe in all those divisions?

Mr. Garfield — Yes, and we have some that are not. Take the Southwestern Shore division, there the Baldwin is perfectly hardy, and we can raise all the more tender varieties of apples without any question. The hardiness of peaches is hardly ever thought of in that section, but when you get into the Northeastern division you do not get any report of peaches at all. The only fruit there is the nardiest of apples. This is the best division we can make. We have never had a report from the northern peninsula. We rather expect to have one the next year.

H. C. Adams — I would suggest that under report of committees we can hear from members who have visited other societies.

REPORT OF GEO. J. KELLOGG,

Delegate to Illinois Horticultural Societies — 1886-1887.

At the urgent solicitation of S. C. Hammond, of Warsaw, Ill., secretary of the Illinois State Horticultural Society, and with powers as delegate from our president, J. M. Smith, I proceeded to Jacksonville, Ill., arriving there the evening of the first day. I was cordially received and hospitably entertained.

December 14, at 8 A. M., street cars were at the door of the hotel, and members and delegates accepted an invitation to visit the largest collection of deaf mutes in the world at the state institution of Illinois. There was 557 pupils in attendance.

The attendance at the horticultural meeting was very good, and the exhibition of fruits very large, over 125 vari-

eties of apples, also fine pears, grapes, and a large show of vegetables.

The discussion on the value of ashes as a fertilizer was very conflicting. Mr. Holmes applies one and one-half bushels of unleached ashes per rod, with good results, while Mr. Wiere used ashes very liberally and found no benefit whatever.

Mr. Gray recommends keeping strawberries forever on the same ground.

By plowing under alternate strips after the second year, always plowing the furrows the same way, he reported hard wood ashes as no benefit.

In the yield of Bubach No. 5, it was reported that a boy picked seventy-two quarts in two hours before breakfast. This variety was reported a failure in southern Illinois.

Mr. Webster reported eighty bushels per acre good returns for southern Illinois strawberry plantations, that it cost $1.35 per case of twenty-four quarts of Wilson, and $1.26 per case of twenty-four quarts of Crescent, to deliver in Chicago, pay commission and cost of raising on an average for a term of years. They must get all their profit above those figures. The Garfield berry is thought to be a wonderful berry for raising south for shipping; not yet offered. Great difficulty is experienced in southern Illinois to get pickers at two cents per quart.

Several papers and much discussion relating to the causes of death of orchards, principally tender kinds, poor sites, poor treatment, insect depredation, over bearing, lack of manure, lime and ashes about bearing trees, and they then fall an easy prey to hard winters, which have caused as great desolation in the north half of Illinois as in Wisconsin. Mr. Rockwell reported one-half the orchards in Hancock county on the wood piles. Some orchards on high dry grounds were reported as bearing one hundred barrels per acre. Their first premium apple for market in all sections was Ben Davis.

Grape growers recommend no summer pruning to escape the rot. The English sparrow seemed to have no friends among grain or fruit growers. The Jewell took first prize

for best plate of grapes. Prizes on plates were $1 and $2, and seventeen varieties of apples drew plate prizes.

In the discussion on orchard pruning a nursery tree of excellent growth was presented as a model. This had eleven branches inside of eight inches. This would ruin any tree in after growth.

The ad interim committee from southern Illinois reported three failures of peaches in eighteen years; that the drouth had damaged strawberry plantations badly, still there had been additional acreage by small growers, and the prospect is not very encouraging for high prices.

Nurserymen and tree peddlers both received some good advise.

Clarence M. Weed, of the *Prairie Farmer*, gave a very interesting paper on insects injurious to nursery trees. The Wolley apis, which injures both tops and roots, is found in a cottony web, on the limbs and in the knotty protuberances on the roots. Remove the insects, webs and eggs from the tops, and apply scalding water at 150° Fahrenheit to the roots.

Apple plant louse, very injurious on young nursery trees; dip the shoots in a strong tobacco tea, and at the same application add paris green for the leaf crumpler and leaf roller.

Prof. O. A. Forbes gave a very interesting report, illustrated by charts, of his experiments for the past two years upon the codlin moth, using paris green, ¾ oz., in 2½ gals. of water, spraying twice after blossom and while the apples are calyx up, on one tree saving 92 per cent.; from the codlin moth and for the season all trees saving 79 per cent. of the fruit; number of specimens examined to reach conclusions, 40,000; cost of spraying per tree, ten cents; application about two weeks apart, and repeat if heavy rains follow; not safe to apply after the stem cavity is up, as it will hold some poison.

Prof. Forbes gave no encouragement in poisoning the curculios.

Many other matters of interest passed under consideration, but you do not expect a volume from each delegate.

January 11th found your delegate at Kankakee, at the opening session of the twentieth annual meeting of the Horticultural Society of Northern Illinois. A cordial reception. A free entertainment. Although there was but seventeen present at the opening, the attendance increased to fifty-three, the highest during the meetings. President M. Barnard and Secretary E. W. Graves, of Sandwich, Illinois. Prominent among the members was D. Wilmot Scott, Galena, who by the way is the next president, and the next annual meeting will be at Galena, if the railroads give usual reduction. Prof. J. S. Budd, Ames, Iowa, was delegate, and added very much of interest to the meeting; also Rev. Mimier, Messrs. Bryant & Son, Cotta, Piper, Whitney, Warner, Woodard, Hill, Small, and many not known to your delegate. The same great lamentation over the loss of orchards as at Jacksonville; and northern Illinois is looking for Russians or seedlings to take the place of its dead pets. Prof. Budd gave us two hours on Russian varieties. He stated that the Aunis family came from 400 miles north of the home of the Duchess family. Of the Duchess type they have about 200 varieties in Russia, giving fruit for three months. He and Mr. Gibb found one variety that they both decided to be a true Duchess of Oldenburg, but on cutting found it a sweet apple.

Of the Yellow Transparent family Prof. Budd considers Thaler (346), Red Duck (60), Grand Sultan and (22 M.), Blushed Calville of as good quality and much better tree, freer from blights, than Yellow Transparent (334), each kind distinct in tree but fruit very much the same. Blushed Calville (No. 22 M.), best quality; August; good as Dyer. There are twenty-six varieties of the department list that compare favorably withour old sorts in quality and size. Hibernal (378), Lead (92 M.), and Silkenleaf (75 M., 104 M.), are bitter next the skin but when peeed are of excellent quality and fine cooking apples. The Assort (252), is of the Alexander type but later in the season. Gipsey Bohemian Girl (1227) Sep. one of the most promising.

Garden (214), Autumn, large, excellent, sweet. Early

Pepin, Sweet Striped and Sugar Sweet, all choice sweet apples and very promising.

Longfield family — Longfield (161), great bearer, Mid Winter, Good Peasant (387), best of this family keeps later, January to May, best quality. Cross (413), an excellent tree, great bearer, in appearance like R. I. J., and keeps well if properly kept.

15 M., good keeper as Willow Twig, small, fair quality. Ostrakoff (472), keeps till March, of Willow Twig type. Antonoska (236), the king apple of Russia, January to April. Pointed Pipka (361), one of the best winter apples. Borsdorf (402), not hardier than Wealthy, winter apple. No. 20, Vor., No. 22, Vor., and No. 45, Vor., are all choice, early, sweet apples. Other varieties he named of great promise, and while many varieties are adapted to the far north, they blight when grown south. The Annis family are small, but will be a success at the extreme north. Prof. Budd has 800 trial stations established, of which he is keeping a record of adaptation, habits, hardiness, blights, productiveness, quality and keeping quality of fruit, and from these combined reports he expects to get at facts that will be reliable very soon.

Prof. Budd gave some very interesting reports of hybridizing fruits, showing the immediate results in the formation and change of fruit the first season, as instance of this the Grimes Golden crossed on Blue Annis gave a perfectly formed Grimes Golden on a Blue Annis tree. The operation is very easy; as soon as the blossom opens remove the anthers and cover the blossom, having removed the other blossoms in the cluster, cover with small cotton bags. In about twenty-four hours the stigma will be covered with a sticky coating which will retain the pollen, which blossoms should also have been bagged until the pollen is ripe, and this will be known by the fine dust that detaches easily from the anthers, this may be gathered when ripe and sent hundreds of miles to be used weeks and even a month afterwards, this fact was a new development in cross fertilization. After the pollen is applied the blossom should again be covered to keep off bees, and when the fruit has

matured the seeds should be preserved in sand and carefully marked, planted and patiently watched for years till the effect of this labor is developed. The professor is looking for grand results, by crossing our best old varieties with the best of the Russians.

Rev. G. W. Minier, president of the American Forestry Congress, was at both meetings and reported the proceedings of that congress, their recent visit to the Rockies, the terrible destruction of timber on its eastern slope, evading the law passed by congress "forbidding the cutting of *green timber;*" (they just burn it over and cut it the next season), the success attending investigation on certain portions of the great American deserts, the diminution of the water supply already felt as the timber disappears. These with many other questions of interest, occupied the time of these conventions. It was considered necessary that we ought to favor the Hatch bill now before congress for the appropriation and establishment of experimental stations in all the states and territories, and that every member write to their member in congress to favor that bill.

Pres. Smith — We will now listen to Mr. Tuttle who was a delegate to the Iowa State Horticultural Society.

A. G. Tuttle — I have no written report, but would say that the meeting in Iowa was well attended. I found they had the same difficulties in Iowa that we have here in Wisconsin. There was plenty of destruction of fruit on account of the cold weather. They were looking for more hardy varieties. Mr. Budd was present and had something to say about the Russian fruits. There seemed to be a general idea that it was going to be a good fruit country out there, especially in the southern part where they do not need the Russian varieties. They can grow varieties there that we cannot grow in Wisconsin, in any part of the state, but generally in the northern half of the state they follow in about the same line as we have here.

Pres. Smith — I will call on Mr. Peffer who was appointed delegate to the Michigan Society.

Mr. Peffer — I received your paper saying I was appointed delegate, but I did not attend the session. It was not dated and I wrote to Mr. Garfield to find out when it was and learned they had already been in session two days.

Pres. Smith — I did not know the date of the Michigan meeting. I had received it from Mr. Garfield but had lost it and could not call it to mind.

B. S. Hoxie — I was about as badly off as Mr. Peffer in trying to attend the Minnesota Horticultural Society. I was only there for one day's attendance. I expected to have been there during the whole session, but business connected with farmers' institutes detained me. Pretty nearly every man I saw was talking about the ice palace. I went to the rooms of the Horticultural Society and found earnest men there hard at work. It seemed very much like home to hear them talking about the work they had to do. They have in Minnesota about the same difficulties to contend with, that we have in this state. I think perhaps we are nearer alike than any other two states in the union. All the Minnesota horticulturists are energetic, wide-awake men. Prof. Porter was present and gave us a very interesting talk in regard to the experimental work there, and expected they would be in a position to make a report soon. We all know that Minnesota has done much work in the way of experiments with seedlings, and that they have succeeded well there.

G. J. Kellogg — I move that Profs. Cook and Garfield and Mr. Harris be elected honorary members of this association and be invited to participate in our discussions.

Motion carried.

The next order of business was election of officers, which resulted as follows: President, J. M. Smith; Secretary, H. C. Adams; Corresponding Secretary, B. S. Hoxie; Treasurer, Matt Anderson; Superintendent of Exhibitions, B. S. Hoxie.

A motion was made and carried that the appointment of the executive committee be postponed until Thursday.

A bill was then read that is pending before the Minnesota legislature in relaton to dishonest nurserymen.

B. S. Hoxie—The company referred to is the L. L May. Nursery Company, of St. Paul. They have two of the best lawyers in St. Paul to fight it off. It went through the house all right, but has not passed the senate. We went before the committee last Friday, and there was every reason for believing that they were going to recommend the bill for passage by striking out section 7; but those lawyers undertook to convince the committee that the bill was unconstitutional. The question I asked the committee was, whether it was right to protect one or two men in pillaging the country, or to protect one or two million people? I suppose the question hangs on some point of law. We would like to have Wisconsin pass a law regarding this class of violations. The license fee is only one dollar, but they have got to deposit with the secretary of state a bond of one thousand dollars; a bond to cover expenses of suits, or anything of that kind. They deposit that bond before they can take out a license. In each county they go before the clerk of the court and show their license, and then they have the right to peddle trees in that county.

J. S. Stickney — I have no doubt there has been one hundred thousand dollars taken out of this state by just such unscrupulous parties. I refer to the Sparta nursery. There are about two acres of trees grown in the nursery, but none of those trees have been used in their sales.

H. C. Adams — I think we ought to have the other side of the question stated. While the need is very great, I should dislike to see any legislation of this nature placed upon our statute books. I do not think it is the right way to go at it. I do not think it is constitutional or good public policy. The whole difficulty lies in the ignorance that exists among the farmers of the state, and the state cannot place its protecting arm around them in such a manner that they will not make fools of themselves. I think that some good results come from this practice in just this way: If a man gets bitten once he is a sharper man afterwards. He looks up this business and he becomes a more thoroughly informed man after that, because his pocket has been touched. The true policy for us to adopt is

to work for a more general spread of knowledge among the farmers of the state. You let the farmers' institutes be kept running for three years throughout the state and it will drive out every one of these fellows.

Mr. Hoxie—When I drew off a copy of this bill I thought it would not meet our wants here in Wisconsin, and so I wrote one and brought it here with me. I have talked with a few of the members and got pretty well discouraged with it, but our president has thrown a little light upon the subject, and I decided to let it see the light of day.

A. L. Hatch—I have been in the nursery business, although I am not in it now, and I would not ask anything better, if I was one of the firm of L. L. May & Co., than for the state of Minnesota to give me a license. I think that law will not be on the statute books three years before they will be called to repeal it.

Adjourned.

Meeting called to order at 7:30 P. M.

The first thing on the programme was a paper:

ORNAMENTAL TREES.

By A. L. HATCH, Ithaca, Wis.

To be ornamental trees must be beautiful, each specimen handsome of itself. An ugly tree cannot by its association become ornamental. By contrast it may seem to "set off" other good looking trees, but its real effect is detracting. An ill-shaped, misshapen tree is a failure for ornamental purposes and should be removed unless it has other values to redeem it. Whatever tree is chosen to save from native growth, or whatever is selected to plant about dwellings, along roadsides, or in public parks for the purpose of adding to the beauty of the landscape or scenery, should invariably possess that grace of outline and makeup what is always pleasing to the eye. There may be strength and grandeur in the giant branches and sturdy tops of burr and black oaks, and the ruddy color of their autumn leaves may lend force to a rugged scene, but it is a strength of power

and not the attractiveness of grace. Iron is not beautiful, yet it may be wrought into ornamental forms, and beautiful shapes. Its hard uses and homely positions are modified by fine designs and pleasing outlines. In ornamental trees some good effects may be produced by combinations and trainings, but the best effect will come from selecting trees ornamental as single specimens and giving ample room to each for full development. Of course we would not ignore evergreen hedges which may be very ornamental if not too rigidly trained so as to lose the natural in the artificial.

To depend wholly upon style of arrangement is a mistake. If trees are planted in rows or in pairs, or in other designs so one will depend upon another for good effect then all must be alike or discord is the result. It is almost impossible to keep trees alike as time goes on, no matter how carefully selected and cared for.

Better plant so each tree depends upon itself for its pleasing effect, contrasting or blending with others no matter what their relative growth may be.

Overplanting about dwellings is a very general fault. From four to ten times as many trees are planted as are needed. The little evergreen tree or the slim elm just from the nurseries may look lonesome if given all the room at first that they will need after fifteen years of growth. As years go by the trees fill up and crowd, and because they have cost care and labor, or because they have been petted and loved when small we are very loth to destroy them as years roll on. It takes faith to see that a white elm will some day need four or five square rods of ground and that a balsam fir will be all the tree needed on a space twenty-five feet square.

To plant a tree, especially an evergreen, close by a building, fence or wall, where the heat of summer sunshine is radiated with great force is to court failure. Also planting where northwest winds sweep around buildings directly upon the trees, particularly during winter. Better plant where no such severe strains of heat or cold will tend to permanent injury.

We do not wish to say much about varieties of trees for

ornamental planting. This society each year publishes a list of varieties recommended for that purpose. Nature has been lavish in her gifts of beautiful trees to all sections of our state and good taste cannot fail to find among them many fine kinds for all ornamental uses.

We have often wondered why our common sumac is not more used for ornamental planting. True, as most generally seen it is only a shrub, but if given room it makes quite a tree, of splendid appearance in the fall when its foliage is so gorgeously colored.

Our maples are among the favored varieties used almost everywhere for ornament and shade. From its rapidity of growth and thrift on sandy soil the silver maple (*A cerdasy carpum*) is mostly planted. It is not near so handsome, however, as the slower growing hard maple, and its branches are very prone to split down with winds or snow and sleet.

Our native white birch is a clean, bright looking tree that will grace almost any lawn, and forms a fine contrast with evergreens. Among the very undesirable, even by the roadside, is the Lombardy poplar. For shade it is about as effective as a bean pole, and for beauty is about as handsome as a basket of chips. As a nesting place for bugs and worms it is an abomination. There may be places where it looks well and where such rank growers as cottonwood and balm of Gilead are just the things to plant. In our opinion that place is just out of sight!

Harmony of color and form ought to be considered. Tall, slender trees will not look well beside a low building with a flat roof, nor broad, round-topped trees beside a tall building with a sharp roof. Crimson and green foliage may set off a white wall, while bronze and yellow may give a discordant look. Evergreens contrast well with most colors and it is well they do, for otherwise they would feel very lonesome besides some of the zebra striped and "Joseph's coated" style of modern architecture.

In planting evergreens it should be borne in mind that all pines look best when of considerable size. Their style of foliage and branching makes them appear coarse when small. With good culture they become majestic with age.

Without good culture they may become scraggy and poor. Perphaps we ought to raise a note of warning about the red cedar. There is good reason to believe that the fungus so common upon it, and known as cedar apples, becomes rust upon apple trees, and therefore, should not be planted where healthy apple tree foliage is valued.

We are living in a very practical age. The popular standard of value strongly inclines to that of money — dollars and cents. The ornamental may not, at first view, appear to have a money value. While utility may be the first measure of judgment in determining value, the purely ornamental is an essential accompaniment of it. The love of the beautiful is so general and it is so highly esteemed that utility is often a secondary consideration. Our tools, vehicles, machines and furniture are painted, varnished, burnished, planished and embellished, often extravagantly. Without these ornamental helps much of merchandise would go begging in the world's markets. In trade and commerce we are constantly looking for the handsome. It's the same thing in matrimony. Every married man thought he secured the most ornamental woman in the whole kingdom when he secured his bride. And the happiest man of all is the one that still holds to the same conceit.

We do not need this analogy, however, to prove the value of ornamental trees. They show their value by every pleasant home, and many more homes can be made more pleasant and valuable for all the purposes of life when ornamental trees shall be more liberally planted.

DISCUSSION.

Mr. Kellogg — What would you do with sumac sprouts, and when would you transplant white birch?

A. L. Hatch — I never have had much experience transplanting the white birch. They grow native our way, but I would transplant everything about the time it starts to grow.

Mr. Peffer — I want to criticise the paper, or make a suggestion. He rather opposes setting trees thick around the houses. We all know that when they have grown it is not pleasant to have them too thick, but we can get a better effect to put them a little thick than to have them farther apart.

A. G. Tuttle — We have planted some white birch, and we have planted them in the ordinary time in the spring and they have grown very rapidly.

J. S. Stickney — I think the birch is not a hard tree to transplant. I have always succeeded as well as with the ordinary maple or elm. It has been our practice to get them from the east. It is our custom to get one, two or five hundred at a time from eastern nurseries, winter them in our nursery cellar and hold them for the city trade until about the middle of May. We have done that with slight loss. We are careful in the matter or roots that they do not get too wet or too dry in the winter, and we are always successful in their handling.

I think there is nothing better than a nice plant or two of sumac. In addition to our common sumac there is a cut leaf variety which is beautiful all through the summer and in the autumn is perfectly gorgeous.

President Smith — I was informed we might expect some music sometime during the evening. We shall be glad to listen whenever the friends come if some one will let me know when they do come in.

In thinking the matter over in regard to the revision of our fruit list, it might save time if we have a committee appointed to revise the list and recommend to the society a list. It might help us, and we could arive at as good results to act as a committee of the whole. I simply throw the suggestion out and the society can act upon it.

Prof. Cook — I have been interested in Mr. Hatch's paper. His suggestion coincides with my idea in regard to the Lombardy poplar. I am surprised he did not speak of the Linden. I am a great friend to the Linden. And there is one other thing Mr. Hatch did not speak of and that is the matter of the care of trees after you plant them.

J. S. Stickney — I used to be a great admirer of the Linden down in Maine. I have seen them grow on rich land and on high, dry knolls. Very often I have been struck with the beauty of the Linden on the road side. At my present place of residence I am located on a high spot of ground, and the soil is inclined to be gravelly. I set out some Lindens two years ago and I believe they will succeed. Certainly we have not a tree that is more beautiful. The leaves are of a delicate green and the tree is healthy and clean, and I should advise every one to think more of it.

B. S. Hoxie — I was going to inquire more in regard to the Linden. My experience has been that they are liable to break down something after the manner of the white maple. We rarely see them in this state in cities.

Pres. Smith — That has not been my experience in Green Bay. I do not think they are liable to break. They are not with us.

The next thing upon oue programme is "Landscape Gardening," by Mr. Plumb, but as he is not with us this evening I will call for the next paper by Mrs. Huntley, of Appleton. The title is "Plants and Flowers in the Home." She has changed it somewhat but has not made it less interesting to us all than as though it had remained its original title.

BEAUTIFYING OUR HOMES.

BY MRS. D. HUNTLEY.

Our homes are what we make them. The artist spends years of labor upon a bit of canvas which is only a picture of nature's; we who grow her beauties in field and garden can make a living landscape, more lovely than an artist's picture or a poet's dream.

The first and most essential requisite for the adornment of home with plants and flowers, is an unconquerable love for the beautiful in nature, a love so strong that it will remove all obstacles and make success certain.

Many men and women begin their married life with the important requisite, with the very best ideas of home and its surroundings, and also with such an immense amount of patience that they are willing to delay beautifying the home until they can make money.

This is a fatal mistake and is more especially true of farmers than any other class of workers.

It cannot be expected that the young farmer can at once devote any large portion of time or money to the ornamentation of his home, but he can plant a few trees as soon as he plants his first crop of corn. He can set a few rods of ground to small fruits, even if he sows less oats or wheat; and the wife must give a portion of her time to her flowers, even if the spring house cleaning is delayed for a month, or the summer garment not made till a week later. These are the things that ought to be done, but do not leave the other undone. We know one young housekeeper who was passionately fond of flowers and had always been accustomed to them from her birth, but she thought her housekeeping would not be a success — she kept no domestic — if she gave any time or attention to flower culture. The first summer of her marriage she planted no flower seeds, and the first time in her life she lived in a flowerless home; but one summer of such privation was sufficient. Ever after some portion of her time was devoted to her flowers, and a place in the garden set apart for their culture. There was much work and many cares, but the flowers grew and increased as the years went by till the wonder was, where or when the time was found to care for them, but it was found; not till it verges upon the impossible do we reach the limit, to what love and labor will do.

There are some things in regard to the adornment of our homes that we should always remember — one is this: When we plant our trees, and our vines, and our flowers, if we do our part well, we can leave them for a time, with the rain, the dew, and the sunshine, and they will grow.

The workers in all industries, except those of agriculture and horticulture, must be ever at their post; through daylight and darkness the skilful hand must guide continually

the swiftly revolving wheel, and the quick eye and thoughtful brain must direct every part of the great machinery that is turning out its varied products for the use of men, or disasters and destruction will result. The farmer or the gardener turns from his work to other duties, and while adding the embellishments of art to the interior of his dwelling, kind old mother nature is carpeting the lawn with living green and covering porches and verandahs with a mantle of leaves, and touching every bud and blossom with tints of crimson, or purple or gold. Day after day the great mysterious process goes on, and each morning he wishes to find bright flowers as fresh fruits waiting to greet him.

Another, is the loss we sustain in neglecting to plant immediately the orchard and the fruit garden; the loss of one year's growth on our trees means one more year without their fruit, and so of all that can be grown to make our homes beautiful.

We should remember, too, that it is a misfortune to children to live in a rural home where fruits and flowers are not grown in abundance and profusion; they have not the refining influence that comes from the daily care and culture of nature's growing things, nor that love for the beautiful which is a safe-guard through life from evil.

The horticulturist, more than any other man, is really devoting his time and his energies to home working; it is his business to plant and to grow all "that is pleasant to the sight and good for food," and he has more to aid him in his wish than those engaged in other professions. The press is giving more attention to horticulture and agriculture than to any other industry; there is more discussion by the people on these subjects than on any other business pursuit, and more information is given from actual experience, to the farmer and gardener, than to any other man.

With all this aid it is passing strange that so many homes should stand as they do, all bleak and bare and treeless without one shrub or flower, or even a bit of grass about the dwelling, when skillful hands might so easily transform them into places of beauty.

It is said that the Swiss people have a law which compels

every newly married couple to plant trees. Let us turn to our young farmers and their wives who have just commenced their home making, and fancy for a moment that they have made this law unto themselves, they arrange the dwelling, which, in the sweet morning of wedded life they decide shall be a temple of love, clean and pure, then they plant the trees, few and small perhaps, but time which matures all living things, will strengthen their growth, and widen their branches, and spread their leafy banners above the home, and shelter and shade it, and with their growing beauty carry downward through the years, sweet memories of the home planting.

With the trees a vine should be planted by the door-way no matter how humble it may be, an ivy or a clematis will clothe the cottage with nature's graceful drapery, and give beauty to the landscape. The lawn should always be as spacious as circumstances will permit, and as green and fresh as growing grass can make it. A place should be given very early to annual flowers, they mature so soon that any home may be made lovely with their fragrance and bloom, in a few short weeks. The dwellers in tenement homes should remember this. If annuals are grown in narrow beds close to the house, it will appear as though set in a frame of flowers, and the work of caring for them is much less than when grown in beds on the lawn. There is no way a dime can be used that will expand into so much beauty as when invested in flower seeds. If only one kind can be grown take the pansies, plant them in rich ground, care for them well, and their bright faces will coax you often to their side, their bright colors will beguile you into their culture, and you will say

"O beautiful pansies, whatever betide,
Come bloom in thy beauty my threshold beside."

With the astors and verbenas another charm will be added to the home, and so of all the long and lovely list.

Some of the old time perennials, the lilies, the pinks and the peonies, if set where the garden meets the lawn will require much less care than when grown in groups or beds

about the door yard. The flowering shrubs must be given a place; with little effort one can obtain the snowball, the honeysuckle and the lilac, with its nodding plumes and its sweet fragrance, and the dear old roses, that are always new. O how many memories are folded in their sweet petals; long ago we gathered them in dewy freshness on a sweet June morning to place at the dear mother's side, as we laid her to rest in the country churchyard.

The special arrangement of plants and flowers add much to their pleasing effect. Where space is limited, we know of no simple device more satisfactory than a window box, placed upon brackets just below the window, on the outside of the dwelling. In this box the upright, blossoming plants are very showy and trailing ones very graceful. For a cottage this is especially adapted.

Within the dwelling, a narrow shelf at the bottom of the window is very convenient for an ivy or smilax, and whenever you wish it can be removed to a bracket to enclose a picture. Those who love flowers will in some way find a place for a few house plants to brighten their rooms when all the green things of earth are sleeping beneath the snow.

The vegetable garden must be added to this home. All its products can be grown and harvested for future use in a few short months; the fruits of the annual vines mature in midsummer and are a luxury in any house.

If the strawberry bed has been planted, a second season will give its delicious fruit, and later the fruit garden will yield from shrub and vine its berries and its grapes. The growing orchard in due time will give its rosy and golden apples, and trees and plants and flowers and fruits will all combine to make this home beautiful to behold and delightful to possess.

We have in mind a home like this, where a dozen kinds of trees upon the lawn can be counted from the verandah, where there are flowering shrubs and beds of bright annuals; and beyond the lawn is the garden, where vegetables of many kinds are grown, and berries and grapes of many varieties, and the orchard, too, where can be found the early and late apples. There are many children in this home and

the father always plants a dozen trees for each child in the year of its birth; the child is the owner of these trees, and if they bear abundantly when the fruit is sold the money is given to Mary or Bertie or whoever owns the tree, and thus a little fund is secured for some pleasant investment in books or gifts.

The children are joint proprietors with the parents; they have an interest in the orchard; they have the trees, the flowers and fruits, the fields and the forest, and nothing could induce them to change their home for one in the city. The mother ministers to the daily wants of the family with her own hands, the name for her cares is legion, yet the flowers blossom in her garden in summer, the ivy creeps over her white curtain and the roses bloom in her window in winter, and the best magazines can always be found upon her table. This is the home where the husband and wife begin their married life. More than a quarter of a century has passed since the first trees were planted, neither cold or blight or insect enemy can discourage this true horticulturist. Year after year he plants the trees and sets the newer fruits, and now his home is widely known as one of comfort and abundance.

This is no fancy sketch. Thousands of homes all over our land could be crowned with fruits and flowers if love and care were given to the work.

The question of time is one of much consideration in this matter of home making, but we have, each one of us, all the time that God has given to mortal man, and our mental and moral status is determined by what we do with it. If we spend the precious hours in idleness or useless work we have taken our choice in the use of our time and must accept the result. Hundreds of homes tell us, most unmistakably, what their owners have done with their time.

Our homes are the nurseries of our children, their characters are formed there, and when they go from us to their life work the world receives the product of our homes. We have a national pride in our growing industries, our machinery and our manufactures. Let us remember that the best production of any country is its people. To the workers in the

cause of horticulture who have given the strength of manhood and the wisdom of years to originating and improving the fruits of the orchard, the world owes a debt of lasting gratitude; they have made hearts glad, homes happy, the world better and more beautiful because they have lived in it, and when they have finished their life work, they will be remembered as benefactors to mankind.

DISCUSSION.

Pres. Smith — Ladies and gentlemen, we have a little time that we can spare for discussing of this paper, and I want to assure you that Mrs. Huntley has not given us any fancy sketch. Her home is a very pleasant one, and is a bower of beauty. If she has mentioned anything you have not thoroughly understood, I am sure she will be glad to answer any questions.

Prof. Garfield — Essayists upon home culture say noble, beautiful and good things, and although people appreciate them at the time, they go home and never practice a word of what is said in the essay. Now these beautiful things that are said, especially by ladies whose hearts are interested in this home culture, ought to sink deep in our hearts. I wish I could go into more homes where intelligence is used in the cultivation of plants and flowers. If you will pardon me I will say just a word as to the practice in some homes. I do not believe in a man saying, "Those are my wife's plants. I don't know anything about them. I know how wheat fields should be managed, but I don't know anything about those things." If there are two people that make up that household, those plants should be *our* plants. When my wife and I go into the garden I do not want her to say that her husband has had pretty good success with some things. I was at the house of a lady one day, who, showing me about the place, said of a wheat field, "This is the first year we have grown wheat on this land," and when we went into the barn yard it was, "Here is some stock we got some years ago." Every time it was we or our. I think

that was largely the reason of his good success. I believe that our success in those things that add to the honor of the home will be the result of the earnest work of *all* and not that one will meet with success. I might say, perhaps, that my wife has great success with primroses, but when I think a little I think perhaps I have had just as much to do with it as she has. Each does just as much as the other.

J. S. Stickney — While I agree in the main with Prof. Garfield, I want to object to one point. I do not want to believe that any one can listen to such a paper and not go home and profit by it. I believe that something will result from that paper in every home represented here to night. To expect it all to be put into practice would be too much, but it would be discouraging to me to know that none of it took effect.

I was very much struck with a letter I received not very long ago, answering a series of questions. The letter was from the wife and it was "we" all the way through. It was one of the best letters I ever received. I also often combat that same point. People often say "Why don't you do so" but I always think why do they, not say "we".

H. C. Adams — This "we" business is running pretty strong. It is all right enough as far as we have gone, but I don't know where it is going to end. If I begin to talk to my wife about *our* cows and *our* flowers and *our* wire fence, why by and by I shall have to talk about *our* bank account, and I am afraid before very long it would get to be my wife's bank account.

G. J. Kellogg — If the woman takes the man in hand soon enough after marriage she can teach him to say we.

The idea of planting a certain number of trees for each child is a good suggestion, and I like the idea of the proceeds of those trees going to the child. It might be carried further into fruit culture. There is a good many good suggestions in the paper that I wish we might put into practice.

Mr. Harris — There is a good deal about this paper that will not be lost. I believe it has some effect upon all that heard it, and a great many who did not hear it will read it and it will have an effect upon them. It is just such papers

as this that in a few years is going to make our farmers' homes largely the homes of the land. I am always glad to hear such papers. I think of my own home and perhaps I do better for them, and when I get home I tell my wife about them.

H. C. Adams — I would like to make one serious comment on this paper. Most of us are working for our children, and I do not know of anything which we can do that will more essentially help them than the very work that was indicated in this lady's paper. As Pres. Chamberlain said "God help the children of people who live in cities." We find so few of the boys who were born and brought up in cities occupying high positions in commercial life, in political life, or in any of those avenues where men acquire eminence and force of character. In our homes we have an opportunity to bless our children, not by the money we shall leave them but by educating them in beauty. I believe that every young man or young woman whose home is pleasantly located, takes in something of the beauty of their surroundings into their lives. You cannot look out upon a beautiful landscape without being thrilled and inspired by that beauty. It is a duty we all owe our children that we make our homes as beautiful as the lady has said we should.

THE SLAUGHTER OF THE INNOCENT.

BY IDA E. TILSON.

Longfellow's poem commemorating the birds of Killingworth, deserves many a reperusal at the present time. Briefly told, the story is thus: One spring, Killingworth's thrifty farmers, being surprised by an unusual number of birds, and alarmed for their crops, solemnly met in town meeting to discuss matters. The case went against these lawless rovers over garden and field. A price was set upon their heads, and a ceaseless fusillade rang out, till the birds fell dead, or crept away wounded, and their young perished by famine. But with summer came myriads of insects, far more destructive, and now no foe checked their march.

Too late, the farmers saw their error and repealed the cruel law. As the dead come not back again to life, another spring, by order of town council, birds were gathered from all the country around, and, in a wagon, overarched with evergreens, upon whose branches hung wicker cages, were carefully conveyed to Killingworth. Their songs, when released, must have run in lines of burlesque and satire.

Beyond doubt, our native wild birds are threatened with extinction. Naturalists and poets, their special observers and friends, all unite in saying so. And one poetess writes:

"Though apple boughs are white with bloom,
And cowslips star the marshy mead,
No little lovers build their nests
On leafy limb and swaying reed.

"The woods are hushed, no martins break
The silence drear of field and glen;
No whirl of wings in happy flight
Is heard along the sedgy fen."

In my own vicinity, eight years ago, quails, blue jays, cedar birds, snow birds, chippies, larks, thrushes, woodpeckers, bluebirds, robins, orioles, scarlet tanagers, wild canaries, and even shy bobolinks, were all numerous. Most of these kinds nested upon my father's farm. Few of them are now seen about the dwelling or yard, and a wooded pasture, their favorite home, is but thinly inhabited. We are reduced to bold blackbirds and semi-domestic barn swallows, and promised English sparrows. The destruction of our feathered friends has been so ruthless, it is estimated that if it stopped now a century would hardly restore the birds to their number ten years ago. Surely a worse than Killingworth's massacre is here.

Its causes are not hidden nor agents unknown. A yearly settlement and cultivation of new lands, makes constant encroachment upon their chosen haunts. Larks, plovers, quails, and all birds nesting on the ground, find the breaking-plow's furrow their writ of eviction, for our meadows, which might answer, are so often changed in rotation of crops, that the home-loving birds have no abiding place and

form no attachments. Red-winged and yellow-headed black birds, and others frequenting marshy places, behold them gradually drained and reclaimed. As our forests are rapidly felled, the very homes of many species are taken from over their heads, exposing them to the weather and their enemies. How heavy is the aggregate destruction by light-houses electric and other lights, which innocently become decoys, The well-nigh invisible telegraph and telephone lines have hurt more birds in unheeding flight, than the wire fences have injured stock. These natural and uncontrollable circumstances should excite our apprehension and win our pity, but to them must be added barbarous and unnecessary slaughter.

Game laws, though they protect during certain seasons of year, do not prevent that indiscriminate butchery which often follows the termination of their restrictions. A few years ago, at the robin roost in Kentucky, and at the pigeon roosts in Wisconsin, greedy hunters bagged tens of thousands, just for the mere delight of klling, vast quantities of game spoiling on their hands, and utterly wasted. On a smaller scale, this useless sacrifice frequently attends ordinary hunting expeditions. The small boy with a gun does not lack cruel intention, but his poorer marksmanship keeps him from committing as much sin. When grains and small fruits are ripening, and birds make an effort to get their share, mistaken farmers bring out their old muskets and blaze away.

Some thousands of feathered creatures are annually killed to make ornithological museums, and eggs are gathered for the same purpose. Law and taxation might wisely regulate this, and restrict collections to those of assured worth and usefulness. Will the undirected, desultory gathering of eggs, now fashionable among children, improve their minds more than any other sport? Science, to be worthy of its name, should do nothing inconsiderately. An embryo or a dead bird is only valuable anatomically. Bird nature and bird ways are learned from living specimens. It is asserted that Thoreau never used a gun and never killed a bird. He made his wonderful studies of sentient

life by aid of a field-glass, when objects were not near enough to be seen by his unaided eye. Surely an example of "the wisdom that is first pure, then peaceable?" Ada Marie Peck and Olive Thoren Miller are well versed in bird-lore. I am ignorant whether they prize slain birds for purposes of examination, but the whole tenor of their writings is contrary to such a supposition.

Woman, ever before supposed tender hearted and compassionate, has, nevertheless, occasioned and sanctioned the most cruel and greatest destruction of feathered species. We may congratulate ourselves, that an earnest crusade has begun against the thoughtless fashion of adorning bonnets and dresses with bird skins and wings, though not less than 5,000,000 birds were, last year, killed for millinery purposes. This does not include young ones starved, nor eggs spoiled. One party in Texas contracted to furnish 10,000 aigrettes. A single village and district on Long Island, sent, in four months, 70,000 skins, to taxidermists. During one month, 1,000,000 rails and bobolinks were taken in the vicinity of Philadelphia, and marketed there. An agent for a French house secured and shipped home 40,000 sea-gull skins. One auction store at London sold 700,000 South American birds in four months. Naturalists, hunters and dealers assure us these figures are but examples of the slaughter going on throughout our country. Many such statements must have met your eyes. One street-car, in New York city, was recently reviewed by an ornithologist, who reports as follows: Thirteen passengers were women, eleven of whom wore birds on their hats. He counted twenty-six birds in all, two women having as high as seven little birds each, in one case making a solid square foot of this hideous ornamentation. In one Sabbath school of fifty-four persons, I found the hats of fifteen girls, and that of one prominent lady teacher, decorated with wings. Unfortunately, the kinds demanded, are our most useful and beautiful birds.

Meanwhile, field crops have been suffering from an increase of insects, in no year more noticeable that at present. It is estimated, these pests yearly destroy in the United States more than double all we export of wheat. Such a

loss makes breadstuffs scarce and higher priced for all. One-half the apple crop is generally ruined, and some orchardists consider it ineffectual to plant more trees, till stringent measures are taken for protecting their feathered allies. Wisconsin shade trees are being difoliated, and even our woods assailed, an experience already old in Iowa and Illinois. A beautiful and natural poplar grove on my father's farm, was last year nearly destroyed by leaf-rollers. Many oaks and butternuts there are infested with caterpillars. Other and older countries afford similar testimony. An English farmer destroyed some 10,000 small birds in one season, and yet had crops below the average of his neighborhood. Some years ago, France and Germany were overrun with sportsmen, as this country is at present. Birds and crops diminished together, till those governments intervened, and, by general, stringent laws, saved the farmer's best friends. Instead of following a bitter experience to its very end, can we not learn wisdom from our predecessors on the same road? Farmers are better aware than most people, how close the fight for possession of our earth is between man and insects. Individually he is larger, numerically they are stronger, and their quickness, persistence, and prolificness, have an inverse ratio to size. As you are aware, Audubon, Wilson, Edwards, Forbes, Lintner, King, Powell, and many other authorities, unitedly affirm birds annually destroy insects to a number inexpressible by figures, and are nature's force for 'preserving the balance of power.' As high as fifty worms have been found within a bird's crop. A pair of thrushes were seen to carry to their young over 100 insects in an hour. Prof. C. V. Riley, entomologist United States Agricultural Department, lately issued a bulletin showing that kerosene, cold water, and various insecticides have been over-estimated. I have found pyretheum and hellibore, not always doing their work. Paris green and London purple are poisoning the land. If our birds were all destroyed, is it not probable this country would speedily become a desert? The spider family would then be our best and almost only hope. "Killing two birds with one stone," an expression traced to the dark

ages of thin settlement, thick forests and denser ignorance, better be relegated there.

But the value of some birds is disputed. Blackbirds, however, have many friends; there seems a tie on blue jays and bobolinks. English sparrows, with cow buntings and shirks, are respectively accused of assault, theft, and murder, with relation to swallows, pewees, wrens, chippies, and other peaceable, industrious tribes. Such miscreants might be killed, and 'the survival of the fittest' thus expedited. It is respectfully suggested that ornithologists, with due diligence, hasten to settle every point decisively, as the U. S. entomologist has done by giving his public verdict against English sparrows, which, therefore, may go on bonnets, or anywhere away from our gardens and better birds. On small fruit growers, too, rests the heaviest portion of bird support, from their produce is taken the largest toil. But, after thorough investigation, it is decided that even robins and cedar birds, by their destruction of insects, more than pay for what fruit they eat. Necessity, already the mother of a mighty family, will surely produce some invention to preserve ripening fruit from birds, at this one time when their company is undesirable. Nettings have been successfully used. An acquaintance hung a bell among his cherry trees, an occasional ringing of which, substantially saved his crop.

After leaving economic grounds, with their far reaching scope, still higher points of view present themselves. Our summer joys, our æsthetic development, our poetry, largely depend on bird life. Has ever instrument of man equaled sweet music of lark, thrush and mocking bird? If the songsters were all annihilated, and their free concerts forever done, would the bellowing of hungry herds and hurdy-gurdies of locust and grasshopper compensate? How much the eye would lose that delights in grace of motion and figure and in delicacy and vividness of color! What a blank in art and literature! The dead birds used for millinery purposes are lusterless or colored, minus legs, and otherwise mutilated, with cheap, staring eyes and unnatural, sprawling positions, surely as poor and unacceptable a

travesty on nature and real art, as are cheap chromos and dauby paintings.

A prominent argument in favor of bird protection is the general damage to national character arising from disregard of life. Death's awful change, only God understands, life, even in its lowest forms, He alone can give. Do children have reverence for these solemn mysteries, and will they show mercy to the aged, poor and sick, when parents contradict gentle teachings by inconsistent actions? The boy who kills for pleasure will not make the best type of man, because it is impossible to be cruel or even inconsiderate in one line and not be selfish in other directions. Character is not divided into compartments. What occupies one portion pervades the whole. Humming birds and red birds are not merely killed but skinned alive, that their plumage may retain more lustre.

A tender regard for life need not betoken effeminacy. Pres. Grant, statesman and general, with a healthy admiration for fine stock, disliked the cruelty of what is called sport. When the late Mr. Forster, member of parliament and secretary, conspicuous among leading statesmen of Europe, was asked by a friend whether he ever diverted himself with shooting, he answered indignantly: "I have never killed a fellow creature for amusement." There are at present so many games and implements, little excuse remains for hunting the innocent and pretty game of our small woods.

The continued use of birds in millinery may hinder reforms in which women are vitally concerned. Already intemperate men plead woman's pet adornment, with its involvement of selfishness and wastefulness, as an offset to their own pet potations with similar concomitants. A wine-maker's journal, published in New York, made an extended argument on such premises in an article which met my eye.

Some wings, stuffed specimens, etc., purchased by me for decorative purposes now cause regret at every sight. So, I believe no true woman, having once had her serious attention directed to this barbarity, will then become an ally of bird butchers. Like many another wrong, it has been a

thoughtless and unconscious one. Perhaps our sensibilities have been dulled by the continual slaughter of other creatures going on around us, a necessary accompaniment of modern life. The world is crowded, and the inferior creation must yield us food and clothing, strength and comfort. However, we raise more beeves, sheep, poultry and silkworms, and in far better condition than characterizes a wild state. To a certain extent, we ourselves provide that we consume, and thereby gain an added right in its use. The principal fur-bearing animals, too, stand on a different and lower plane from our feathered friends. The fox pounces upon wild turkeys, partridges and pheasants in their nests. He likes to visit the farm yard in search of poultry and eggs. Lynxes and martens even climb trees in pursuit of birds. The mink feeds largely on marsh birds, and is also an active depredator in the poultry yard. When in them, naturalists discover virtues enough to overbalance such tricks, mercy will become our duty, though what contributes to warmth and comfort can ever take precedence of that which is decorative only. There are numerous substitutes for birds in millinery. Silk pompons and ostrich plumes are graceful. Ostriches are carefully and tenderly reared. Their plucking is probably no more painful than shoeing a horse. The beautiful feather bands, manufactured from poultry down involve no additional loss of life, but utilize another product of creatures already destined for food.

To save and restore our birds, concert of action is needed. They will be relieved from long flights under a mid-day sun, if some trees are left when clearing land, and others set along streets and line fences. The choke-cherry and black cherry are especially beloved. Wild animals go with the soil. A farmer can claim as his property, the birds nesting on his trees, and obtain legal redress from hunters who, without permission, start and catch, within his domain, other game than noxious beasts of prey, like wolves and foxes. At least Iowa, New York and New Jersey, have new and special laws for bird protection; Wisconsin is considering more stringent measures. A list, distinguishing valu-

able from injurious birds, is conspicuously posted in each French commune, as a guide to sportsmen, and the rudiments of zoology are required taught by her primary schools. Parents and instructors everywhere have a duty and an opportunity to educate children in gentleness and refinement. The American press is doing a gratuitous and noble work for birds. The Anti-Plumage League of London and the Audubon Society, in New York, are active. Branch organizations are multiplying, a recent addition to their number being at Des Moines, and headed by the governor's wife. Queen Victoria, Princess Christian, and Lady Mount Temple, frown upon the use of bird plumage. On women, indeed, as chief cause of bird destruction, rests the duty of righting this wrong. As long as demand continues for bird wings, law will be evaded, and supplies will come. Only fashion's disapprobation can save our birds. As the same poetess entreats:

"Oh sisters, let our protest ring
Through all the saddened, songless land,
Lest He who notes the sparrow's fall,
Shall ask the slain birds at our hand."

DISCUSSION.

Pres. Smith — We can spend a few minutes now in the discussion of this matter. I want to say a word about protecting the birds. It has been my practice for a number of years not to have a bird killed for any purpose. We used to find a good many nests while working in the fields, and I always had my boys stick up a stake that the hired men might know that there were nests there. I have moved nests two and three times while the bird was setting and she has not left the nest. It can be done with almost all of our ground birds. We have birds by the thousands in our garden through the season.

G. J. Kellogg — I think the men are more to blame than the women. If the men who own the farms surrounding the places where this depredation has been going on would

use the authority in their power, this might be stopped. Then if the ladies would not wear them that might stop it; but I think the men should put a stop to the killing.

Mr. Harris — I am a great friend to the birds. The blue-jay is not one I dislike. He is around all winter and he hunts out where the cabbage worm is to hatch and destroys it. There is a bird called the sapsucker that I am death on. I have had several of them killed and have had their stomachs examined to see if they killed insects to any great extent. From the few I have examined I judge they live off of pine trees. I believe they are not residents of Minnesota. They come early in the spring and then they retire to the forests in the summer and in the fall appear again. They will eat the apple tree the same as the pine tree. There is another bird I do not like and that is the cherry bird. I have no doubt he eats more or less insects, but he is death on the cherries.

Session adjourned.

Meeting called to order at 9:30 Thursday morning.

The first in the order of exercises was a report read by the president relating to premiums by the New Orleans exhibition.

To the Members and Friends of the Wisconsin State Horticultural Society: I have the pleasure after a very long delay, and correspondence continuing for more than two years, of making as far as I am personally concerned, a final report in regard to the collection of premiums due from the New Orleans exhibition and belonging to our society. The delay was caused first by the financial condition of the management. For a long time they claimed that they would be able to pay in full, but needed more time to turn their assets into ready cash. Second, there was a delay and a long correspondence in regard to the premiums which were awarded. I was informed that some of the creditors were threatening to commence suits, and that the moment a suit was commenced, the whole thing would be placed in the hands of a receiver, which would in all probability end

in the entire assets being swallowed up in the litigation, and leaving the creditors without a dollar for their claims whatever they might be. Hence, after obtaining all the information possible, I agreed to accept fifty per cent. of the premiums awarded, and waive all claims to medals. One or two other matters have somewhat added to the complication of a complete settlement of all the accounts. It was stated upon a former occasion, it was found after we had set up our largest collections, that the society's collection was not sufficient to fill the entire list, I agreed with Mr. Peffer and Mr. Spinger that if they would allow their collections to be used in making up the balance of the entries for the society, they should have the cash premiums upon such entries, and the society the medals. After we had made the entire list of entries, and had the fruit nearly all set out, a new decision was made by the managers which shut out the society from the entire list with the exception of two premiums. I immediately withdrew the entire list of entries except the two, and again entered them in the names of G. P. Peffer, W. A. Spinger and J. M. Smith.

When I came to collect the money, I needed a power of attorney to collect such premiums as were awarded to friends Peffer and Springer. Mr. Springer sent me the necessary papers, but Mr. Peffer did not, hence I will leave him to make a report for himself, which he is of course abundantly able to do.

There were awarded to Mr. Springer and myself on fruit, 13 premiums, amounting in the aggregate to	$115 00
To the Wisconsin State Horticultural Society, one	100 00
	215 00
Fifty per cent. of which is	$107 50

Of the above sum there was due in accordance with my verbal contract with Mr. Springer, $23.75. This amount has been paid, leaving a balance due the society from the fruit awards of $83.75. On fruit trees, forest trees, ornamental trees, shrubs, etc., there were awarded to the society and myself 12 premiums, amounting in the fggregate to $500.

Fifty per cent. of same	$250 00
Added to fruit premiums	$333 75

This amount has been paid over, and is now at the disposal of the society. The large $200 premium for the best collection of trees, is not included in the above. It was awarded to Mr. Peffer, and will, of course, be included in his report. This report may be verified by comparing it with official list printed in Vol. 3, of American Horticultural Society's reports. I am sorry to have kept the society waiting so long for a report, and am still more sorry that we are to receive no medals; but I have done the best I could under the circumstances.

After all, as the society had no money invested, and as the work was performed by a few of its members, the disappointment is more in not receiving what we were fairly entitled to, and what we for a time supposed that we were to receive, than to any other cause.

Respectfully,

J. M. SMITH.

G. J. Kellogg — I am disappointed in regard to the premiums, but as to the efforts of our president in obtaining and making this report, I move that this society tender him a vote of thanks, and I think it will entitle him to another re-election.

Carried.

H. C. Adams — Before we proceed any further I move the following amendment to the constitution: To amend article 5 by striking out the words "commencing on the first Monday in February," and inserting "such time as may be determined upon by the executive committee."

G. J. Kellogg — I presume our secretary can give some good reason for making this change.

H. C. Adams — There are various reasons that can be given for this proposed change. Under the existing arrangement we are required to meet at the same time our state agricultural convention is held, and the effect has not been good upon the work of our society. When the two meetings are in session at the same time there are members passing from one to the other and our attendance is limited.

Our attendance here is not large, but we have thirty per cent. more here than we had in Madison. We want to extend our work; we want to get more men and women interested in it, and I approve of going to different points in the state to hold our winter meetings, in the hope of building up and organizing local societies. The Michigan state society dates its strength from the fact of its having so many local societies, and if we secure the greatest results we desire to secure, it will be by forming as many local societies as possible. We feel this as members of the state society. For this reason the amendment has been submitted.

G. J. Kellogg — I think this is one of the most important moves we have ever made, especially in connection with the state institution. I should like to hear from Mr. Garfield.

Mr. Garfield — Mr. Adams has stated the facts in the case. The strength of the Michigan state society lies in her children. Wherever we go with the state society we go for the purpose of organizing a local society. We make them stronger in that locality. A system was inaugurated six or seven years ago by which our local societies became parts of the state society; in other words, if a man became a member of any local society, by virtue of that membership he became a member of the state society. The annual fee is one dollar, and one-half of that fee goes to the state society, and in return we send them copies of our books that each member may have a copy of the report of the state society. We require a report from each local society, and they can claim a place in our volume for each report. In this way there goes back not only an account of their own society, but of all the societies throughout the state. They are all joined together, and the strength of the local societies is a building up of the state organization. We have about 4,400 copies of our report.

The change in the constitution was adopted.

Pres. Smith — Gentlemen, the next thing in order is the presidenn's address, which will perhaps take seven or eight minutes.

H. C. Adams — Before you read the address, I would sug-

gest the appointment of a committee for the revision of a fruit list. The motion was made and carried yesterday that such a committee be appointed to report to the society before final adjournment.

Pres. Smith — I think that was not carried.

H. C. Adams — I now move that such a committee be appointed, to report this evening at 7:30.

Motion carried.

PRESIDENT'S ADDRESS.

By J. M. SMITH.

Members and Friends of the Wisconsin State Horticultural Society:— Knowing as I do, that we have much to do, and that our time is limited, I shall occupy but a few minutes in my remarks upon this occasion.

The season of 1886 will long be remembered by both agriculturists and horticulturists, as one of unprecedented drouth in almost all portions of the state. As a result, crops of all kinds have been more or less damaged, and in very many cases almost ruined. In addition to this, prices of almost all products of the soil have ruled low.

Under such circumstances it could hardly be expected that cultivators of the soil could help feeling more or less disappointed at the result of their last season's labors. Still I am well satisfied that if we will only read and study the lessons taught, correctly, they will be worth to us in the future, all, and more than all they have cost us in the past.

Most, if not all of you are aware that I have long been an ardent advocate of better methods of cultivation than are generally practiced. You also know that I have tried as best I knew, to carry out my theories upon my own land.

The results of last season seemed almost like a mathematical demonstration of the saying, that good drainage, good cultivation, and plenty of manure will enable land to stand almost any amount of drouth, and still produce crops.

I will not be so foolish, as to say that I was uninjured by the drouth which in the northeastern portion of the state

was the worst that I have ever known anywhere; but, I may truly say this much, that although I received no high prices for anything we grew, still the balance for the year is upon the right side of the ledger, and it is a fair one, even if not as large as we supposed during the early part of the season that it would be.

So well am I convinced of the correctness of this theory, that I propose to continue in the same course, and improve upon it, as best I can, and if I should be the means of persuading others to pursue the same course, it would seem to me that my life had not been quite in vain.

Last month while attending the convention of the Minnesota State Society, the question of fraudulent sales of fruit trees, plants, shrubs and ornamental plants came up, and was pretty thoroughly discussed. Among the firms that were named was that of L. L. May & Co., whose agents claim that they are selling stock grown in or about St. Paul and other points in the northwest, and that their stock was perfectly reliable throughout the northwest. Mr. May himself came before the convention and claimed a hearing. It was granted him; but when the members of the society were done with him, he was much worse off than if he had remained away. He admitted that he had no nursery in the west, or northwest, but claimed to have an interest in one somewhere in the east, but finally admitted that he purchased the most of his stock of different parties in the eastern states.

He also admitted that he was selling many varieties of fruit trees, as hardy, that the Minnesota State Society have long since condemned as utterly worthless in their soil and climate. Among his fruits so called, is the tree strawberry which he admitted to be nothing more nor less than the common burning bush of our forests. His prices in many respects are but little if any short of robbery. I do not know that May & Co., are either better or worse than others that are of the same class, and mention him because he was there to defend himself, and along with many others I listened to him and asked him questions; and when he left the hall, I could not see wherein his business differs mater-

ially from other methods of obtaining money under false pretenses. Our friend Mr. Hoxie has a report of the action taken by the society and will report it to you.

The action taken by them may not be the best for us, but it does seem to me that some effort should be made to protect our citizens from this class of downright swindlers, for to me they seem to be that, and nothing else. You will doubtless recollect that the legislature of two years since doubled our appropriation. The entire sum has not been used, and it has occurred to me that it might be well for the Society to instruct its future president and secretary to correspond with the local societies and encourage them to hold conventions of perhaps a single day, or more if deemed best, and to send one or two of our most active members to aid them; the Society paying all cash expenses of said members, and they to give their time for the benefit of the cause.

I should be willing to do my share of said work, and do it cheerfully, and not only that, but aid in organizing new societies in different portions of the state where none now exist. The northern portion of the state is filling up rapidly and if we can aid the new settlers in making their homes not only more comfortable, but more beautiful, we shall be doing a most excellent and much needed work. It is to be hoped that our legislature will continue our present appropriation.

I would recommend our friends to see their members, and friends in both houses, and explain to them the reasons why we need the money and how we use it. If the members fairly understand it I presume there will be little or no objection to our having the amount we ask for. During my travels in the western portion of the state, I learned that in very many cases the orchards that were set years ago with high hopes of plenty of good fruit in the near future, have been swept out of existence. Even the Duchess and crabs in many cases having yielded to the severity of the winters, and perhaps other circumstances that we do not yet fully understand. The urgent necessity for experimental stations in different portions of our state, to be in

charge of good, reliable, and competent men, ought, it seems to me, to be no longer disputed. If what is now known as the Hatch bill in congress, becomes a law, every man of us must use his influence to see that it is used for the purpose designed, and not allowed to be diverted in any other direction. If the experiments now being made with Russian trees prove to be as successful as we all hope, and many of us believe it will, at least, aid us in solving theproblem of fruits in our orchards; but in the meantime we cannot be too careful about the varieties of apples that we recommend for the western and northern portion of the state.

In accordance with the instructions given me at one of our former meetings, I have succeeded after much delay, and a very long correspondence in getting a final settlement with the managers of the New Orleans World's Fair. The best arrangement that could be made was to accept 50 per cent. of the premiums awarded, and waive all claims to the medals. Such a settlement has been made and the amount received paid over to the secretary. A detailed report of the same is ready to be submitted to you whenever called for.

It is to be sincerely hoped that the new departure that we have taken with regard to our Winter meetings will result in much benefit to our Society. I would recommend that all those who make entries at our exhibitions and pay their entry fee of one dollar, be entitled to membership in the state society for that year, whether ladies or gentlemen. Its tendency would be to increase our membership, and among the members so obtained there would doubtless be those who would remain permanently with us and become active and valuable workers with us. The next meeting of the American Pomological Society is to be held in Boston, Mass., in September next.

The next convention of the American Horticultural Society will, in all probability, be held in California (place not yet located), some time during the month of February, 1888.

The action that you have taken in authorizing your president to act in such cases would hardly justify him in appointing delegates, and burdening the society with the expense of their attendance at either of these conventions.

In my estimation it would be well for the society to consider the matter, and take such action as may seem best to all concerned.

I have already occupied more time than I at first expected or intended, and will bring these remarks to a speedy close.

In all of our work let us endeavor to do it so wisely and well that we shall commend ourselves to the good sense and good judgment of our fellow-citizens.

It is very certain that as the years go by, the fruit-growers in the state are relying more and more upon the actions and opinions of the members of the state society to guide them, not only in their selection of fruit trees, ornamental trees and plants, but also in their cultivation. Hence the great necessity of our acting, not only with caution, but with such good judgment that those who may be influenced by our actions, will have no occasion to feel that they have been either deceived nor disappointed.

DISCUSSION.

G. J. Kellogg — I believe there was a committee appointed to which the secretary's report was referred, and I move the president's address be referred to the same committee. Carried.

Mr. Harris — In Minnesota, last year, our society made a departure which I think is a good thing. They started what they called a Fruit Commission. The duties were to visit different parts of the state when they heard of a new fruit, and to make an annual report at the meetings of the society. I happened to be chairman of the Commission last year, and I found they could do a good deal of good outside looking up fruits. It was the means of getting some good members into the society, and it was the means of encouraging a good many men to plant small fruits on their farms. Such a commission can impart valuable information in regard to the State Horticultural Society, and stimulate those getting doubtful, and an annual report would be a benefit to the reports you send out.

Prof. Cook — I want to talk a moment, for I think I can see a way for this society to do splendid work. There never was a time before when my friend Garfield was with me that I was sorry. If our state society has ever done anything for our state, it is due entirely to him; and it occurs to me that your have got in your secretary a man that can do just such work. Your president has suggested to you the kind of work that is good. It will do for a little while, but men do not like to work like the bees for nothing. If you could salary your secretary and put him into this work he would revolutionize it all over your state. We have done that in our state. Mr. Garfield worked us up and kept us full of enthusiasm, and I believe you have in your secretary just the man to do the same work. You may not be able to do it just now.

Pres. Smith — I believe that Prof. Cook speaks the mind of the society. The trouble is and has been that we have not money enough to carry out such a plan. We have been afraid to ask the legislature to give us as much money as we needed, and perhaps our modesty has been a damage to us.

INJURIOUS INSECTS AND HOW TO FIGHT THEM.

BY PROF. A. J. COOK, MICHIGAN AGRICULTURAL COLLEGE.

This subject of injurious insects, to which I have given much study, is one of tremendous magnitude, whose importance is rapidly growing as the years go by. We are taking the natural food plants from our native insects, as we clear away the forest's brush wood, and the more humble herbs of fen and upland. And the insects, bent on getting even with us, are robbing us of our fruits, grains and vegetables. Each year sees some new insect enemy, which often comes as a devastating flood upon whatever of fruit, grain or vegetable it may attack.

New imported insects, of all these miserable pests the most to be dreaded, are coming year by year to our shores. So emphatically true is this, that were we not also, at the

same time learning more of the ways and habits of these insect hordes, and discovering new and more valuable methods to combat their mischief, we might well stand appalled in hopeless dispair, as we should see in prospect a revisitation of the seventh of the old Egyptian plagues, when every green thing was swept by the devouring locust, from off the face of the whole earth.

It is no slight embarrassment to stand before so great an evil, with but the one weapon of an hour's time, and know where best to strike. Yet in this practical age, before an audience of practical folk, I can not go amiss in describing some of our worst enemies, each typical of a large group, and showing you just how you can best overcome the fearful ravages which they inflict.

In opening with the Codling Moth, I have the advantage of introducing an old acquaintance. You have seen him. I won't say tasted him, nor will I hint that he has enriched many a glass of cider, over which we have all smacked our lips. You know how the little gray moth with its front wings copper-tipped, is hardly more than one-half inch in diameter, how it wakes from its *pupa* slumber from early May even to July depending upon the temperature, how the female moth lays a single white egg in the calyx end of each fruit — apple, pear or quince; how the little larva or caterpillar eats about the core, filling its mine with its own filth; how in four or five weeks it crawls forth from it dark tunnels and under some bark scale, in some old birds' nest, or in a crevice it weaves its delicate cocoon of finest silk, and soon changes to a *pupa* or chrysalis. In about two weeks it bursts its somber garb, and again flits forth a gay and handsome moth — nay not handsome of handsome is as handsome does — for now it again stocks the fruit with the baneful eggs. This second brood is like the first, only the wee white larva — the so-called "worms" — do not leave the fruit so quickly, but often remain domiciled in the luscious pulp, till long after the apple is domiciled in cellar or storehouse.

As the one first to demonstrate the wondrous efficiency of the paris green remedy for this worst enemy of the apple

orchard, I am specially happy to explain and commend it to you. The old band method was utterly impracticable. It required labor and attention just when the tension of the busy season was at its height, and so the remedy failed, for want of needed labor and attention.

The far better hay remedy is only complete when the "wormy apples" are all felled to the ground. This labor of thinning is often very richly rewarded, in the finer fruit secured because of thinning. Yet, as with the labor of removing the bands, it is apt to be neglected, and thus the remedy fails to give satifaction. Again in seasons of scarcity, when fruit is money, and when from the very nature of the case, Codling larva will be the most destructive, this remedy is only locking the stable door after one horse is stolen in hopes to save the other horse. At such times, when both horses are so valuable, the mere saving of one is far from satisfactory.

The use of the arsenites Paris green or London purple, saves both horses and is a cheap and easy way to accomplish this important work. My experiments, which have been elaborate and have extended over several years, established several points: First and most important these arsenites kill the insects before they enter the apples and so the fruit is preserved sound and beautiful. Secondly, it takes a surprisingly small amount of the poison to sound the death knell of the insects. The faintest trace of these arsenites always kills, and thus we should be thorough in our application; but use a very dilute admixture. Again the moth is even waiting for the blossoms to open, and so the fatal egg is often laid before the blossoms have fairly fallen from the trees; therefore we must apply the death dealing potion very early, before the young fruit is larger than a two-grain quinine pill. Here is where some have partially failed in the use of this remedy. They have waited till the larva has hidden within the green pulp, and is safely out of harm's way. I would not make the mixture stronger than one tablespoonful to two gallons of water. Were I to modify this at all I would make it weaker. To spray an orchard the barrels should be drawn in a wagon, and so fastened that they

could not possibly be thrown out. The head of the barrel should be tight so as to prevent waste, with two holes, one for the pipe from the force pump the other for a stirrer. The force pump should be fastened to the barrel, and may be worked by a crank attachment to the wheels of the wagon. The liquid should be distributed in a fine spray, so that while we use but little we are sure to touch every part of every apple and leaf. The Cyclone nozzle works well, though a new nozzle made and sold by A. H. Nixon, Dayton, Ohio, is by far the best arrangement I have ever seen. By the aid of this, in connection with a good force pump, we need have no fear of imperfect work or failure to effect our purpose. Here let me urge again that this remedy be not deferred too long. One application made before the apples are larger than peas, effects surprising results. Let me further urge that all make use of this remedy. If this lecture should induce yo u — or even the most of you to do so, how good it would be that I came among you.

But what of the danger of using such virulent poisons on our fruit? Let me say that I have considered that point most fully. I have called in the aid of the microscope and the chemist's re-agents, and both have said: *No danger.* I have used fruit thus treated now for seven years and have no fear of poison. When the chemist's delicate tests can find no sign of arsenic, when the sharp eye of the microscope sees no trace of the poison, nor can find any trace for weeks before the fruit is to be used. I feel that we may safely use and recommend these arsenites in this warfare.

I would not use or recommend white arsenic. In all cases that I have heard of where persons have been poisoned by use of these poisonous insecticides it has been the result of gross carelessness. Many people are born careless and never recover from it. To use white arsenic, which looks so much like many culinary articles, makes the danger from carelessness *far greater.* Paris green and London purple are so distinctive in their color that this alone forms the skull and cross bones that will effectively set danger aside. The danger from pasturing under trees charged with these poisons is not great, owing to the very dilute

mixture and the fine spray. Yet it is always wise to keep stock from such an orchard till a heavy rain has washed off the little poison that may have fallen on the grass.

I would never use Paris green on fruit that is to be used within a few days from the time the poison is applied. Thus I would never use it to fence out the currant slug. The usable fruit and the insect in this case are often upon us at one and the same time. Neither would I use these arsenites on cabbages. Certainly not after the head has formed, for the very conformation of the vegetable makes such use dangerous. Again, no one should ever use or handle these substances with the bare, unprotected hand — especially is this caution necessary in case of any abrasion of the skin. Neglect of this caution resulted in the death of a very talented young horticulturist of Indiana some years since. I am free to say, and I have probably handled these poisons as much as any one in the country, that reasonable caution makes their use perfectly safe.

In using these arsenites to destroy the Coding moth larva, we at the same time kill the Conker worms, the several species of leaf rollers that often fairly dig out the buds in early spring, and are very destructive; the old American tent caterpillar that flounts his tents in the orchardist's face just as the leaves are putting out in May, and thus in using this remedy, we are killing not simply two, but several birds with one stone. I would also use these insecticides, to protect against all leaf eating insects, where there is no danger. Thus, on shade and ornamental trees that are being defoliated, on fruit vines and trees early in the season, and on such vegetables as potatoes, melons, etc., where the foliage is not used to swell our larders.

It remains to be said that as this poison must be eaton to destroy, it is impotent against the plum curculio, as here the egg is pushed by the mother weevil through the poison beyond the reach of harm. The same is true of all lice and bugs. They do not munch and chew, but insert their sharp beaks and suck the rich juices of the plant. Hence, they can pump the very life out of the plants, though the latter

be thoroughly coated with Paris green, and not even receive the first gripe of stomach-ache.

Imported cabbage butterfly (*Pieris rapae*). This beautiful butterfly that has so recently invaded our fair country, needs no introduction to any of you. How well it illustrates the truth discovered by the great Charles Darwin, and to which I have already referred, that the newly imported species do most mischief and are most to be dreaded. "It is the new broom that sweeps clean" would be paraphrased thus: It is the new insect that makes a clean sweep. As you all know, the fine white butterflies, with their neat black buttons come sailing leisurely into the cabbage garden early in the year when the plants are just well started, and again in midsummer when the heads are nicely formed. And how well protected are the green eggs which are scattered about the cabbage leaves. Their green hues are so like that of the cabbage, that it requires a bird with very sharp eyes to secure those eggs for breakfast. Soon the green caterpillars the so-called "cabbage worms," come crawling forth from the eggs. Nature has also dressed these caterpillars in a mimicing robe, as in their green dress they escape detection except from the sharpest ken. These fat, slick, larva grow very rapidly, as we should expect from the way the cabbage leaves melt away. The ragged leaves, and the abundant droppings of the larva make it not difficult to find even these insects which owe so much to color protection. The second brood tunnel far into the cabbage, and are not infrequently sliced in exquisite manner by the same knife that prepares the krout or slaw for the table. In three or four weeks the little acrobat lies its tail end to some barrel, ledge or to the cabbage, spins another robe which it swings under its shoulders, and then presto, it just gets out of its own trousers in a marvelous way, and we have the queriest, greenish-gray chrysalid. After a few days of quiet in summer or the lapse of the long winter this pupal skin bursts, and the clean handsome butterfly flits forth once more, to repeat the same round of mischief.

For this insect California Pyrethrum or Buhack is a most efficient and satisfactory cure. This insecticide consists of

the powdered stems and flowers of a composite plant, the Pyrethrum Cinerariaefolium. This powder is now cheap and entirely non-poisonous to the higher animals. It has two objectionable features, it loses its virtue upon exposure, and so the first article is the best. Again, it is not always efficient, as some insects are not destroyed by its use. The California Buhack Co., Stockton, California, are engaged extensively in the growth and manufacture of this article, and so we should expect they are not likely to send out a worthless article. I have used this Buhack with marked success, as a powder and mixed with water. In water I use a tablespoonful to the gallon of the liquid.

Prof. Tracy and Mr. Alwood, of Ohio, both say they have succeeded perfectly with the powders, but very indifferently with the liquid mixture. My experience is quite the reverse. I have succeeded better by use of the liquid, only as I think, because I applied it with a force pump, and the application has been more thorough. I presume the reason why our friends have failed, is that they have been too gentle in making the application. We must remember that the Buhack has to touch every insect, and so we must dash it onto the plants, and not sprinkle it on in the gentle way that it would fall from a sprinkler, would we do good execution.

Pyrethrum is excellent to kill house flies, poultry vermin, and even lice on cattle.

For lice on cattle, etc., however, I prefer to wash the animals in a strong decoction of tobacco. And I have no hesitation in saying that it is far more rational to kill these annoying lice by aid of tobacco poison, than to use the dirty weed to kill off our boys. I can endure the foul stuff while I am scrubbing a steer or heifer for a brief five minutes, but to have the stench and filth ever about, poluting air, car, audience room, and worst of all that blessed sanctuary, the home dwelling, is surely asking quite too much. To treat cattle place a half pound of the tobacco, the very cheapest will do as well as any, in a pail, and turn on to it a gallon of hot water. As soon as it is cold enough, so that we can wring out clothes in it with the bare hand, the animal is to

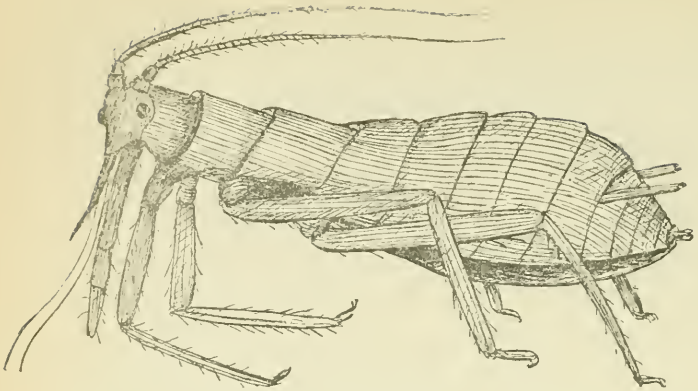


Fig. 1.—Plant Louse, or Apis, showing mouth organs.

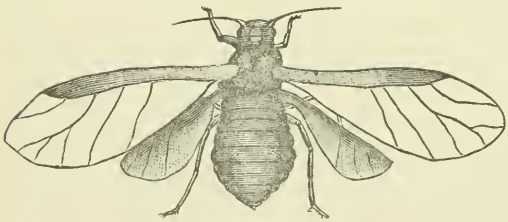


Fig. 2.—Winged Aphis.

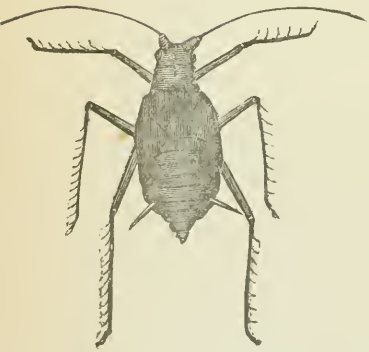


Fig. 3.—Apterous Apis.

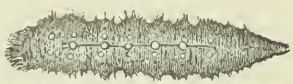


Fig. 4.—Larva of Syrphus Fly.

be scrubbed thoroughly with the decoction. I have gone over a fine, large Shorthorn in five minutes. If the day is cold the animal should be kept in a warm stable and covered with a warm blanket. In a short time it will dry off, and it will never feel any inconvenience. If done on a warm day it will not be necessary to blanket the animal. The next morning the animal can be groomed, and will look as smooth as ever. Pyrethrum will kill the lice, but it often requires to be applied two or three times in quick succession to make the work thorough, while one thorough application of the tobacco decoction usually is sufficient. I say usually, for as all stockmen know some individuals among our cattle are just bound to be lousy. In such cases even the tobacco decoction may be required two or three times in a winter. Of course sweet, whitewashed stables will be an aid in this work of extermination. Crude kerosence, or some mixed in lard, will also kill lice very effectively if thoroughly applied. But it is very dangerous to handle, owing to its oily nature, and the animal is altogether too much stuck up to suit us, at our house. We don't believe in being "stuck up."

Plant Lice Aphides — You are all familiar with the small, flask shaped aphides, which so often fairly cover the stems and foliage of our trees and vegetables, and are especially free and at home on our house plants. I am said to have a weakness; I call it a strongness, in that I am specially interested in what interests the ladies, and when the object is a thing of such rare beauty, and the giver of such wholesome, lasting cheer as those window bouquets, which loving hands so patiently, carefully and thoughtfully train, and care for, I should be doubly ashamed not to be interested.

These plant lice are green, or as seen on the cherry and dock, black, or occasionally, when they work on the twigs, grey. These are of the bug tribe, and so, of course, have long, piercing peaks, with which they puncture the leaves or stems, that they may pump up the rich sap. They are good pumpers, rapid growers, and increase beyond all computation. How often we notice that a few lice on a plant one day will in a few days be succeeded by a multitude.

Indeed, were it not for other insects, our great but little friends, that feed upon and destroy these lice, I doubt if the farmer and horticulturist could succeed at all. The peculiar mode of propagation among these lice is strongly interesting and anomalous. Both male and female lice appear in late autumn. After pairing the female lays her many eggs about the twigs among the buds of the plants. In the spring only females develop from these eggs. And these females continue to give birth to other females the summer through, so that there are no males at all till autumn comes again. The fecundity of these *agamic* females is something wonderful. It is estimated that a single pair might be, under the most favorable circumstances, the ancestors of over a a billion lice in a single summer. In green houses and on house plants they are specially harmful, for in such cases there is no check by cold, and the agamic reproduction may go on indefinitely. And in case of plants thus protected the predoceous and parasitic insects are fenced out, and the lice go on with no let or hindrance, except that artificial means are employed. The past season, owing to the wide-spread and almost universal drought, was especially favorable to the rapid increase of these pernicious sappers. Many a plant was utterly devitalized because of these myriad sap suckers.

In all my extended experiments I have found nothing equal to the kerosene and soap mixture as a specific against these pestiferous lice. I make it thus: Mix one quart of soft soap and one pint of kerosene oil thoroughly together, then add one gallon of water. If thoroughly mixed this liquid will not injure even the most tender foliage, and if dashed onto the plants by use of a force pump, or a Woodason spray bellows, I will vouch that no guilty louse will escape. I have used this now for years and with the most perfect satisfaction. By use of the atomizers sold in the drug stores this kerosene and soap mixture can be readily applied to our house plants, and if the latter are set in a zink, or on an oil cloth, the application can be made with ease, and as the odor soon escapes, the remedy is not an unpleasant one.

It only remains to be said that this same kerosene mixture is very deadly to almost all insects, and if thoroughly applied to them is very effective. Whenever the arsenites are ineffective, or forbidden by the possibility of danger, and where there is no objection to the use of kerosene from its odor and taste, then I would recommend its use. Bark or scale lice will succumb to this same substance, and are especially susceptible to it if the application is made just as the young lice hatch. Again, we have found that those terrible pests of the gardener, the raddish, onion and cabbage maggots are vanquished, surely vanquished, by the use of this liquid. True, many will use it and not succeed; only, however, because they will not be sufficiently thorough. We all know that these maggots tunnel far into the stem of the plants, and are thus safely out of harm's way. The only surety of success lies in making the application every three or four days. This is not very expensive and pays well. We turn a half gill about each cabbage plant, or in the case of radishes and onions turn quite a stream along each row. We have thoroughly proved the efficacy of this remedy both in the garden and in the laboratory.

The Currant Slug — The currant saw fly is another enemy which has come to us from over the sea. As you all know it is a bad one.

These flies are about the size of the common house flies, and to the casual glance look not unlike them. The female, as is generally the case with insects, is the larger. She is yellow with black markings, while the male is black with yellow lines. The female, in May and June, by use of her wondrous saw, prepares a place on the underside of the currant and gooseberry leaves along the veins, for her white eggs. When these are laid, they look not unlike strings of beads. The larva are first pale green, and though very small, can be quickly found by the perforations in the leaves. Little circular holes — often several — will show in each infested leaf. The slugs grow rapidly, and soon get too big for their skins. Then the skin bursts and the slug relieved, again stuffs himself till he feels ready to burst again. These moultings, as the casting of the skin is called, occurs five

times. After the first moult the color is dark green with black spots, till the last moult, when the light green again appears. Soon after this the larva goes under some leaf and forms a cocoon of firmly woven silk in which it soon pupates. In a few days the flies again appear and soon we have the second brood of larva. These remain as pupa through the winter.

I need not say that the presence of these insects in any currant vinyard means death to the currants unless prompt measures are taken to eradicate the slugs.

White hellebore is a safe and effective remedy. While it is a vegetable poison, it is in no way so severe a poison as the arsenites, though it destroys quickly the voracious slugs. It has been used for many years in both Europe and America, and I have never heard of any harm from its use. It can be applied in the same way as directed for pyrethrum, and I have found it more satisfactory than Buhack in this warfare. This hellebore may be used for all slugs where the arsenites or kerosene and soap mixture are not permissible. On shade trees I prefer the arsenites; on rose bushes, the kerosene; on raspberry vines, white hellebore.

The Wheat-bulb Worm — This is an old insect, which was noticed in Michigan more than forty years ago. Dr. Fitch described it in part in 1856, and Dr. Riley gave an account of it in 1869, and referred to injuries to wheat about St. Louis. Ten years later, 1879, Prof. Lentner refers to this insect as a serious enemy to the wheat in New York.

More recently still, Prof. Forbes, the very able state entomologist, of Illinois, has given a very full and complete description and life history of this pest. During the past season I have discovered one new peculiarity not mentioned, I think, elsewhere, that this insect also attacks the oat crop.

In its results the work of this insect is not unlike that of the Hessian fly, and doubtless has often been mistaken for Hessian fly ravages. The wheat-bulb worm, *Meromyza Americana,* works as does the Hessian fly; first, in autumn in the young plant, and again the following summer in the nearly mature stock. The maggot or larva is slimmer than that of the Hessian fly, and has the two black longi-

tudinal hooks, so common in *Dipterous larva*, but which are absent in the Hessian fly larva. Again, in the stock which ripens prematurely the slim, greenish maggot is always found above the upper joint, and inside the straw, and not on the lower joints inside the sheath. The pupa is also easily distinguished from the puparium of the Hessian fly. This has none of the seed-like appearance which gives rise to the common name, flax-seed state, applied to the puparium. The fly is also quite different. It is more the form of the house fly, not slim like the mosquito, as is the Hessian fly. Its antennaes are short, not long and slim. Its body is conspicuously striped with three dark, longitudinal bands, and its wings are straightened by four longitudinal veins, with three cross veins. So we see a little observation will quickly distinguish this insect from the other. I have no doubt but that in many of our Northern States this pest does very serious damage.

Prof. Forbes recommends late sowing, the same that is usually urged to defend against the Hessian fly, as the best remedy against this bulb worm. He also says that quite likely sowing spring wheat for a year might exterminate this pest in any particular region where its ravages are serious.

I am inclined, from my observations, to recommend the exact opposite for both these enemies. Early sowing, with the best culture, and strongest growing varieties of grain. In both cases it is the fall brood that does most injury, and as all may observe, if the wheat is early and vigorous, it will tiller out and often wholly recover from quite serious attacks. Again, we cannot tell of a certainty that either insect will ever come in numbers sufficiently large to do damage. Though if the flies are abundant on the volunteer wheat in late August, we may expect them. If we knew the insects would certainly come, the late sowing might be wise. As the chances are that they will not, the parasites and untoward fortune are usually too much for them. I feel safest to work just as I should to get the best crop irrespective of the insects, and in the large majority of cases I win. So I urge you all to take hint from these

wheat enemies, as from low prices, and by better tillage, more ample fertilization, more than make up for the evils that confront the wheat grower.

As I do not wish to extend this lecture so long that there will not be time for discussion and questions, I will only refer to two new enemies which I know to have camped down upon the Wisconsin apple growers. I refer to the plum gouger, which so gouges your apples that look so gnarled and deformed that one would hardly recognize them as our king of fruits. The other is the apple maggot, which attacks fall apples, and upon such fruit is far worse than the codling moth, as the latter does not entirely ruin the fruit which it attacks, as it confines its filthy work close about the core. Several of these maggots may be found in a single fruit, and they tunnel the apples through and through. Hence, to eat such fruit means to devour a score or less of maggots, which, unless one is on the lookout, he is quite likely to do. The apples do not show the condition of things as do those attacked by the codling moth larva, and so one, unless warned by a previous victim or a less pleasant previous experience, is almost certain to destroy more or less of these insects by a very sure if not a perfectly agreeable method.

For both these enemies there is no remedy like that of swine in the orchard. Apples attacked by the maggot will almost surely fall, and so, with no pains on the part of the orchardist, the fruit and insects are converted into pork. In case of the gouger I presume the fruit need to be shaken off. I have not been able to study the insect in the field. If so it would pay well to do it. I am greatly in favor of turning hogs in an orchard. If rings are in their noses they do no harm; while they enrich the soil, and become insect-destroyers on a grand scale.

Mr. Witt — If any one who has an orchard can turn his pigs into it and keep them there a few years, he will be entirely free from the gouger and codling moth. I have been free from these for about ten years.

Meeting adjourned.

Meeting called to order by President Smith at 2 o'clock P. M., Thursday, February 17, 1887.

President Smith — Are there any committees to report before we commence our regular session?

Report of committee on Experimental Stations read by Mr. Hatch.

To the Wisconsin Horticultural Society:

Your committee on experiment station work in horticulture, would respectfully report that by the courtesy of Profs. Henry and Armsby, of the agricultural department of Wisconsin University, we have made a beginning in experimental work. Last spring it was decided to try the effect of three kinds of fertilizers upon three kinds of strawberries. As far as the extreme drouth has permitted, we have to report some progress, but as results can only be obtained with fruitage the coming season, no definite report can be made until another season. We recommend a standing committee upon this subject and feel that the thanks of this society are due the gentlemen named for their co-operation and good will. We also recommend your consideration of the accompanying communication to the farm committee of the board of regents of the university.

A. L. HATCH,
H. C. ADAMS,
B. S. HOXIE,
Committee.

WHEREAS, it is of vital importance to the horticultural interests of our state that experiments and investigations be made in fruit culture, and of the principles and philosophy of soils, fertilizers, etc.; and,

WHEREAS, such investigations and experiments can only be successfully made by steady work year after year, with skilled workers, with special apparatus and with proper soils and sites, and under the direction of high scientific scholarship; and,

WHEREAS, the experiment station of the Wisconsin university farm does not afford a suitable place for such work; therefore,

Resolved, That it is the sense of this society that we ask the farm committee of the Board of Regents of the university to make arrangements with some competent, practicable worker, who has suitable soils and sites, and employ such worker under the direction of Professors Henry and Armsby, to make such investigations and experiments as may be deemed most important to Wisconsin horticulturists, and to such work we pledge the co-operation and sympathy of this society. For this purpose, it is our opinion that $1,000 or more per year should be appropriated.

A. L. HATCH,
H. C. ADAMS,
B. S. HOXIE,
Committee.

Mr. Plumb — I wish to inquire of the committee if it is their intention to have a single experimental station or more?

Mr. Hatch — It should be one. That is all they will furnish money for.

Report of committee unanimously accepted.

Mr. Kellogg — I wish to offer a resolution. We have three other delegates from neighboring states, two from Iowa and one from Illinois (naming them). I move they be elected honorary members of the society. Motion carried.

President Smith — We will now listen to our friend Mr. Tuttle on the subject of "The Relative Hardiness of Apples." I hardly dare tell you what he just told me.

Mr. Tuttle — I was just saying to Mr. Smith that I would have to look at the programme to see what my subject was to be. I see that it is "The Relative Hardiness of Apples."

I have had a little orchard experience during the last thirty years, and have seen something of the relative hardiness of the different kinds of apples. During that time it has been a series of experiments, and we thought that we had got upon solid ground a good many years ago, and that the fruits that came through the winters of 1855 and 1856 were all right for Wisconsin, but we have had several setbacks since that time, and especially last winter which rather knocked the bottom out, with the exception of a very few varieties. We have been at work for nearly twenty years now upon a class of fruits that we supposed to be hardy enough for Wisconsin, and we are now looking to them, at least plums, cherries and apples, as adapted to the climate of Wisconsin. It is now fully twenty years, or more since I first saw a report of the great orchards of Russia. After reading an account of those orchards, I took every opportunity in my power at that time to learn something of the climatic conditions of that country. I procured several books of travel written by persons who had been through the country and had given a description of it. I was then satisfied, and I have been since, that the Russian fruits were adapted to this region. They have the same kind of climate and the same kind of soil that we have. Where in the

world do you find a great prairie country that answers to the prairie country that is found in Russia? Why is it that the land is not covered with timber? It is because they have a very dry atmosphere, just as we have at the west of us. Where there is moisture we find timber growing, as in the region of the oceans; but when you get beyond that you get into a country that has a dry atmosphere, and where the great prairies have been produced in consequence. In Russia they have more extreme cold than we have. They have there a climate which is certainly as severe a trial for fruit trees as we have here, and yet those orchards have been growing for hundreds of years.

Now I have been testing these trees for nearly twenty years. I have had them in favorable and unfavorable locations. We have put them in the most unfavorable locations that we have had, and we have seen the test. A year ago last winter we saw nearly everything swept from the board; nearly all of my trees were destroyed out of several hundreds; but a great variety of these Russian fruits — nearly a hundred on my own grounds — came through all right. I am no more a believer in the Russian fruits since that time than I was before. I never had a doubt but what they would stand every extreme of climate. There have been objections to them all along; there have been men to find fault with them, but it is getting pretty late in the day to make such claims. We have as good fruit from the Russian varieties as from any. We have keepers fully equal to the older varieties. Of course a large proportion of these apples are either summer or fall apples, but so it was with our old fruits. We have fully as large a proportion of fine eating apples as we had from the old varieties. Of course, where you are in the region of the lake here, you find many varieties that do well that are worthless with us. I have heard men talk about the Russian fruit not being good, and then recommend crabs. Crabs are good in their place, but they are not good for eating.

I have here specimens of the wood of some of the Russian varieties, and also specimens of some of the old American varieties. In collecting from the old varieties I have taken

the healthiest branch upon the tree. I am considered something of a crank on this subject of Russian apples, but I have been at work at them for years considering the keeping quality of the fruit. If we are ever to have orchards in Wisconsin, in my opinion, it is best to take up these Russian fruits. Go up into St. Croix county and you do not find even a crab apple tree. While attending the farmers' convention up there this fall I did not see a single fruit tree until I got to Neillsville. I consider that part of the state as bad as the worst parts of Minnesota. But I do not wish to take up the time any further.

President Smith — If any of you have questions to ask Mr. Tuttle, please ask them promptly.

H. C. Adams — I think you are putting it pretty strong, simply judging from your own experiment. An experiment at one point is not conclusive.

Mr. Tuttle — No, I do not consider it a thorough test; but I have lots of Russian apples that I feel perfectly secure in.

H. C. Adams — You are basing your faith on the Russian apples largely by your experiment. You would hardly want to sell trees that you had not tested in different localities.

Mr. Tuttle — I would so far as hardiness is concerned, because I have satisfied myself that from the region in which they grow in Russia, they would grow here. You may grow apples on one kind of soil, and under certain conditions they will do well, while in other portions of the state they will prove an utter failure. Now what I would like to see and I do not think it ought to cost to amount to anything — I would like to see experimental stations all over the state. We could select men in different parts of the state who would take good care of them, and we could have reports from different portions of the state.

A. L. Hatch — There seems to be some difference of opinion as to what we mean by experimental stations. Now what Mr. Tuttle wants, if we understand each other, is trial stations. We mean something entirely different from experimental stations when we say trial stations. A trial station would be a place where the fruit could be sent to be tried.

Take Prof. Henry's work at Madison; he goes out of the line of trial work simply to make experiments. The terms may be somewhat synonymous, but I think when we have experimental stations we want a place where experiments are made, and where we shall get some scientific knowledge that will tell us just what to do. A man says I will use ashes as a fertilizer. Now ashes are good as a fertilizer just as far as they furnish food for the plant, but there is another effect in which they are in no sense fertilizers. We want to go at this question of experimental stations in earnest; but for the mere trial work I agree with Mr. Tuttle, and we should all work in harmony. In regard to the Russian apples, perhaps they call you a crank just the same as they did a few years ago, when you thought you had hit upon the Red Queen, and you know in that you were disappointed, and I believe the Sour Turnip the same way.

A. G. Tuttle — The Red Queen, so far as I know, is not a failure. It is an apple that will keep through the winter, and I believe it is as good as the Duchess. The Sour Turnip is a good eating apple.

H. C. Adams — The point I want to bring out is that Mr. Tuttle does not appear to appreciate the value of work that can be done at one point. He says that Mr. A., at a certain point and under certain conditions reaches a conclusion, but the conditions may be different at other places and therefore we will have a number of observers at different points. Now if the experience of one is not worth anything the experience of a number of men is not worth anything.

A. G. Tuttle — You have a station at Madison, but what is that worth for St. Croix county?

H. C. Adams — There are certain things that we can experiment upon. We do not expect to prove everything. We can find out something about fertilizers and about soil if we cannot about hardiness.

A. G. Tuttle — That is the main thing. If you have not got that you have not got anything in this state.

H. C. Adams — You may have hardiness, but if you do not have culture you can not do much. We want to have a

single station where we can have thorough and intelligent work done.

A. G. Tuttle — I do not deny the necessity of a central experiment station, but I want these experiments to be made in different parts of the state also, on different soils, so that we may know of results. A man may set out a tree in a certain kind of soil and it is perfectly worthless. We want these trees tested on different soils. You may find a place where a tree will do well and a mile from that place it will not be worth anything. There may be from ten to fifteen degrees difference in temperature.

H. C. Adams — Of course, I do not wish to be understood as intimating that the work you refer to is not valuable. It has its place; we want these outlying points of observation too, but they never can do the work of a well-equipped experimental station.

A. G. Tuttle—I am in favor of a central experimental station.

J. C. Plumb — There is one point Mr. Tuttle raises in regard to the crab family that I wish to speak upon. Now, here just a few weeks ago I was just ten miles north of the central line of the state of Wisconsin, and before an audience of intelligent farmers, and I asked this question: "I wish to know how many in the audience have ever tried to raise the Duchess of Oldenberg as an orchard tree?" I got about twenty hands, and then I asked how many were willing to plant it again, and I got two hands. Then I asked: "How many have tried the Transcendant Crab and have found it a success?" I got the whole twenty hands again. I saw it was of no use for me to talk about crabs up there. That was just ten miles north of the central line of Wisconsin.

Pres. Smith — We shall have to call upon Mr. Garfield. This is a discussion of great importance, and if we have time further along we may take it up again and discuss it at our leisure. Mr. Garfield, of Michigan, is a gentleman who has done more work and better work than any man in the northwest, and I take great pleasure in introducing him to the horticulturists of Wisconsin.

"WHEN, WHERE AND HOW TO TEACH HORTICULTURE."

By CHAS. W. GARFIELD.

A long time ago, a year perhaps, your president wrote me asking if I could be present at one of your meetings. I planned to be present last summer, but was prevented. At the time of the correspondence I said I would come, but made a personal request that I should not appear upon the programme; but it seems he has ignored my request and put me down for a definite speech.

My early education in horticulture was gained under rather unfavorable conditions. I remember quite distinctly one early lesson I received. Our school house was situated on the banks of the Menominee, and quite a number of us boys took it into our heads to go off and look for some wild goose berries, and so left school without saying anything to any body. We did not succeed in finding the berries, but we found some plums, and it seems to me I have never tasted any plums in Michigan that were as good as those. We got back to school very late, and then I learned my second lesson in horticulture. I learned the relative strength and fiber of the blue beech. The lesson has stayed with me ever since. I am still a lover of plums, and the remembrance of those has led me from that time to this to wish to indulge more in the handling and enjoyment of that fruit.

I can remember that in the county of Waukesha I took another lesson in horticulture, and it was with mandrakes. I and a cousin were left alone in the great house one day, and we went back into the meadow and there we found some mandrakes. I tasted of them and thought they were not good. He said they were, and I told him to keep on picking and eating them. The result was exceedingly disastrous, as they acted as an emetic. He was put to bed and was quite sick after it, and I was put to bed too, but not because I was sick.

There is one other remembrance of Waukesha county that I remember kindly. It was the spring of the year thirty one years ago next month. A lady friend who took a great deal of interest in us children, said to five or six of us boys, "I wish on Saturday you would all come up to my house and I will give you an outing." We all gathered there and she went with us into the woods. We each took a spade and we found five beautiful maple trees, and each of us dug up one of those trees and took it to the school ground and planted the trees there. After the planting of the trees, in which she taught us many lessons, we went over to her house and there she gave us each a saucer of maple syrup following which we had some crackers and milk. In those days crackers and milk were considered an extravagance. I thought *that* a wonderful thing she had done for us — crackers and milk and maple sugar. I appreciate it to this day. When I went back there a year ago last June, the lady pointed out to me the only remaining tree of those we planted that day, and she said: "That is your tree. We saved it to remember your having lived here among us." I am glad I planted it. I think the little lesson learned that day has done me a great deal of good. I do not know but it has moulded my life.

I have a little boy who is studying horticulture to-day. He is four years of age. He generally goes right out after dinner, and he has a little piece of ground prepared for him where he watches the germination of the seeds planted there, and often pulls up the seeds before the sprouts come up and before the root is started. He is getting an interest in horticulture. He cannot learn his letters; I have tried to teach them to him. I have got him to count up as far as four, but not to five. I think he is a genius in horticulture but not in figures. Those lessons that boy is getting are the best possible lessons he can learn at his age, and I wish more people would strive to teach their children not to read and count, but more of things that are about them that will add to their pleasure and enjoyment to the end of their days. I believe that the success of life comes from the enjoyment of each day, and if we can add to the measure of

enjoyment of those days, we are doing the best possible thing we can for them. The prominent thing is to teach them those things that cannot be taught in the schools. You cannot teach all of horticulture or all of agriculture in schools, but you can teach children to observe things that are about them and so be better fitted to learn when they are in school. Now, I know lots of good people who have married, and had children, and who understood a good many facts regarding horticulture, but never dreamed of telling those things to their children. I have known lots of ladies skilled in the use of the piano who, after they were married, neglected to open that piano for years and years. It is the same thing in either case. They are forgetful of the wants of their children. I am bound to teach my little boy, and all the children that are about me, the things in which I was most interested when I was a child, and that I did not get the information about as early as I ought to have received it.

Now as to incentives: It is a beautiful thing to say to a child, here "Dolly has got a calf, and John, you can have that calf for yours." Of course John is very much pleased to think he is going to have the calf; he pats it and watches it grow; it is John's calf and he takes all the interest possible in the growth of that animal, but by and by it is not John's calf but dad's cow, and that spoils it all. If you give a child anything give it to him for his very own always. I say to my little boy, "there is a little patch of ground. I have been telling you how to grow strawberries and raspberries and you can grow anything you please on that ground, and I will help you all I can;" and I would tell him also, "all you can get from that land I will help you to sell, and if there is anything on the land that we want in the family, we will buy it of you." I know in that manner I shall induce that child to more earnest work than I could in almost any othey way. I would follow this work from the nursery to the school. I said that you cannot teach horticulture in the schools, and you cannot. You can have text-books, and that is about all you can do, but I do not believe that you can teach horticul-

ture by text-books. I believe there never ought to be a teacher go into our country schools who cannot teach the children about the common things around them that touch upon agriculture and horticulture. I have been a school inspector. There are thirteen schools in my township, and I took the summer time to visit them because I wanted to see the the township at that season, and I wanted to see the children out at play. It is a pet theory of mine that there should not be a tree in the neighborhood that the children do not know the name of, and also that they should know the names of all the flowers, and so I tested them a little, and I found out there was but one out of the thirteen schools that knew even the common name of the violet. That is saying a good deal. I was ashamed. Some said they were Johnnie-jump-ups, but none called them violets. I do not know but we are unusually ignorant over in Michigan. I found many children who knew more than their teachers about trees. I found lots of children that did not know the difference between an oak and a maple. I found there was a deplorable absence of information among the teachers. I should be ashamed not to know about those things if I were a teacher.

It seemed to me that something must be done about it, and so I went before our horticultural society and said that it was a shame that our teachers did not know anything about the common facts of horticulture, and that we ought to do something. We considered the subject and concluded the first thing to do was to get the children to do something themselves. A few of us went as a committee and presented the matter in the best way possible to the superintendent, but he said he was not elected to do that work. We could do nothing there. We went before the board of education with no better success, and we finally went to work ourselves. We got out a publication upon the subject of the desirability of bringing about in the schools a knowledge of the common things of the woods and of fruits and flowers that the children might become acquainted with them and know their uses in matters of ornamentation and decoration of the school grounds. We made suggestions. We scattered

these pamphlets all over the state of Michigan, and we also made such arrangements that we could deliver to any school different kinds of flower seeds upon the condition that the schools should plant and care for them and report upon their success. In this way we succeeded in stirring up quite an interest in the subject. We worked and carried on our nurseries for three years, not being helped at all by the state teachers' association, and we got somewhat tired. Horticulturists will get tired. As I go over the state I occasionally meet teachers who tell me how it has helped them in their work, and how it helped the whole neighborhood. I have had letters from a few who have said that nothing in the world, in connection with their school work, has so aided them in keeping order in their schools and in keeping up an interest; nothing has so helped them in their work. We feel that we have started a good thing, and that the leaven is working; and we hope that the work will be taken up and carried on in the direction in which we have begun it, and that good results will follow. I like to teach children some of the elementary facts in horticulture in the most simple things possible and see them try to carry them out. You and I enjoy seeing a couple of little girls gather a few flowers and put them together in a tasteful way and ornament themselves with them. Did you ever think of that in connection with the boys? Now our education is imperfect until we consider that those things apply to the boys just as much as to the girls. Take it in the house, it is just as important to have the boy's room fixed up as it is for the girl's. Until we can take hold of this matter in earnest and distribute our attentions equally, we shall have boorish boys, and we shall blame the boys for it, when we have helped to make them so. Now I am just going over this ground from heads, and I wish to tell you of something that I am doing. I am teaching horticulture in my Sunday school class. They tell me I am a crank on the subject, but I think the most beautiful lessons in the Bible are those upon this subject. Take the lesson of the lily and the lesson of the vine; how it twines itself around the human heart, Why not make more of these lessons?

A week ago last Sunday we had a lesson entitled "The Lily Lesson," and we were not satisfied with just learning it as it occurred in the Bible, but we gathered together a lot of lilies and brought them into the class as an object lesson. We told the children about the lily family, and we drew many beautiful lessons, and the children listened as attentively as possible, and when we got through with the lesson we had the children in the best possible condition to carry to them the truth and beauty of Christ's character. Last Sunday we had the vine lesson. This is a series we have. Somebody saw me coming to the Sunday school with a long vine, and the friend said, "What are you going to do with that? That will make several whips, won't it?" I let them make all the fun they wanted to. After we had had our lesson of the vine in the classes, I took it before the little people, and I noticed that that little class of infant children — twenty or thirty little people four or five years old — were interested as possible. I told them about the buds and their arrangement; how God did it; that He arranged that thing just as He thought wise; that none of us would have ever thought of the things that God thought of, and I told them the same thing was true of all things in God's creation. So I went on about the simple things of botany and horticulture as they could be taught from that vine, and I was satisfied that from the attention given in the classes that that was the most desirable lesson I could give to the Sunday school.

Now I want to say a word about the normal school and its duties. I do not know your arrangement in this state, but we have one in which we are supposed to teach our teachers how to teach. There go out a lot of young men and women to teach our children in the best way. I find that in the curriculum there is almost nothing taught that is going to be a help to our children in this line. I want our normal schools to have the elementary facts of the study of horticulture. I want those teachers to be taught practical lessons how best to use plants and shrubs. I want them taught how to teach so that they can go into a community and make the school grounds the nucleus around

which to work, for there is no better way in which to reach the people of the country than through our normal schools, if the proper instruction is begun there, in the way of home adornment and embellishment.

It is a beautiful thing to have beautiful home surroundings, as that is one of the ways in which the children are taught to appreciate the good and beautiful. I want practical things taught so the children will know how to do those things. When you make the school premises beautiful the leaven is there that will go through the whole district. We tried it and found that the influence went into almost every family in the neighborhood, It is exactly like the story that was told of a teacher who went into a community and put a scraper before the school house door, and it was only a little while before there was a scraper before each door in the neighborhood. I want horticulture to be the same way. I want the children to understand why a vine is more beautiful than a straight tree. There is a lesson in that, that he can enlarge upon and employ in a thousand ways to give him satisfaction and enjoyment. At one time I was elected a director, and when I came to hire the teacher I said: "I want you to teach this school. I know what you know about some things, and I know you like botany. Now I want you to take it right into the school, and I do not expect you to teach it entirely out of books. I want you once a week to take a day and go into the woods, and I want you to make it so interesting for the children in the woods that you will not have any trouble at all with them." She went to work and did it, and at the end of three months she was to have her pay and I found out that with all the influence I could possibly bring to bear, they voted to cut out every one of those days in paying her, and I had to pay her myself. That is an instance of some of the difficulties we have to contend with in teaching horticulture in Michigan, and we have a college and agricultural college in which horticulture is made the special feature. Now I have thought of this subject a great deal and I have some opinions in regard to it. I think that a teacher in an agricultural college who will be the most successful will be the one who can do

almost everything with his own hands. I think it hardly possible for a young man brought up in town, who has gone through the city schools and then gone to college and taken a scientific course, to be fitted to teach in a horticultural college.

For a teacher of horticulture, I want a young man born upon a farm, whose father and mother had an appreciation of the farm, and who have fostered a love of it in the son, and, after having given him good school advantages, I want him to have a good scientific education upon that, and then, if he is a level-headed man, he is just what we want. We consider ourselves extremely fortunate in the state of Michigan in having a young man who was brought up in this way. He was brought up to know the value of the details in connection with agriculture with reference to making a living out of it (and that is an important thing), and then having a college education and a good, practical head upon him, we feel that we have a wonderful man for the position he is in.

When I took my course in horticulture, I found out by going into a nursery for nine months following that I learned more about a knowledge of horticulture that would help me to a success in life than I had learned in the four years I had spent in college. Do you wonder that I was a little skeptical about what our agricultural colleges were doing for horticulture? I thought upon that subject for a long time, and it seemed to me that I ought to come out of college with a better knowledge of the details. I could not graft nor I could not prune trees with any satisfaction whatever. I had to get that information afterwards. I want the tuition in horticulture to be scientific connected with other branches, but I want it to go right along with the practical operations in horticulture.

Now, I want to say a word about society work. There are a great many people who have not had the advantages of school, who have never been to college and cannot avail themselves of the advantages obtained in schools and colleges, that must get the information somewhere in order to get the large share of comfort they ought to receive in con-

nection with this work; and to this class of people the society comes with its work, and a noble work it does in adding to the general information to be obtained.

The suggestions I have already made indicate the ways in which we ought to work to educate people with reference to matters of horticulture. You can have a meeting in any neighborhood and discuss questions with reference to horticulture, and the information there obtained and the interest there awakened will spread throughout the neighborhood and be of value for all time; and the greater number of these meetings we have the more we can help each other in this work, and the better we will be off. I want to see this society work increase. I do not want the men who have been shouldering and bearing these burdens to give way under them. I want to assist them to spread those burdens over more shoulders, and above all, because I want more men in the field as active horticulturists. We have a way of teaching horticulture now that we did not have a few years ago, and that is, through the horticultural press. Now, why study horticulture? I have answered the question already. It adds to the measure of enjoyment in this world of ours. A man may sow a field of wheat; he sows it, reaps it and sells it, and what does he gain more than the money value of the crop? There is nothing which stays upon his field. But let him plant a tree and it remains there to beautify the landscape, and while he may reap a harvest from year to year, at the same time he is permanently fitting up and beautifying his home.

That is one reason why horticulture is one step higher than agriculture — agriculture in its narrowest sense. Horticulture applies to the child, to the middle-aged man, and to the man that is in his decline. There is nothing which can give him so much enjoyment as the careful watching the growth of tree, flower and plant, and the study of those beautiful things God has made to embellish this world, the study of which elevates the character, beautifies the life and fits man for a beautiful abode beyond.

DISCUSSION.

President Smith — I think none of you will blame me for putting Prof. Garfield upon the programme. We can give a short time to the discussion of this most interesting address, but the remarks must be brief.

Mr. Phoenix — Mr. Garfield has brought up one point, one lesson, I should like to enlarge upon, and that is the very close relation between, and proper rendering and teaching of, the Bible and horticulture. If I wanted to make horticulture popular I would not only teach it in the schools, but would also take it into the church, because the church is the short road to the soul of all common humanity. If I had my way about it I would not only strive to implant a love of horticulture but a love of agriculture also.

President Smith — Is there anything further?

J. C. Plumb — I want to add my testimony of the personal labors of Prof. Garfield in his own state. From personal observation and from a reading of the Michigan papers, I am satisfied that if his plans had the hearty co-operation of the Michigan horticultural societies, there is a foundation for a grand horticultural era for that state. Now the question is, can anything be done for the state of Wisconsin of the kind? If there is anything that is dear to my heart it is to see this grand old society do something for the interests of the state. I believe we will get to it and that we will have Garfields in Wisconsin. God hasten the day of their coming.

President Smith — The next thing upon the programme is a paper by Mr. Hoxie.

FORESTRY.

BY B. S. HOXIE, EVANSVILLE, WIS.

Mr. President and Members of the Wisconsin State Horticultural Society: — A few years ago I prepared a short paper on the subject of tree planting, and though the points then made were directed mainly to fruit tree

planting, yet for a number of years I have been interested in whatever I could learn, or read about "Forestry." Perhaps my occupation as a builder has put me more directly in this line of study and reading, and I have counted the stroke of the woodman's ax from the forests of Maine to the western slope of the Rocky mountains. I remember when the wharves and docks in the city of Bangor, Maine, were filled almost mountain high with lumber; and have seen acres on acres of rafts of logs and lumber on the Penobscot and its tributaries, and now that traffic has entirely ceased in that as well as other eastern cities, and moved on to Pennsylvania, New York, Wisconsin and Minnesota., These have or soon will transfer their mills to Washington, Oregon or Alaska territories. To those who say there is always enough of everything, consequently there always will be, I may offer no reason or argument for forest protection. But the history of the world is before us, and as every violated law brings its penalty, so every effort, or work in harmony with nature is sure to bring its reward. And it makes no difference where or how we commit the depredation nature will not submit without striking back.

America or our own United States, may never be put on the list of countries ruined by forest destruction, for we hope to gain wisdom by the experience of others before it is too late. France, Austria, Russia, Switzerland and Prussia, of European countries, are perhaps making greater advances in forestry and tree planting than all other parts of the world. In these, as well as some of the smaller kingdoms, government either owns or controls all of the timbered lands.

In Prussia there are twenty million acres of forests; and of this, one-half is owned by the government. This brings in an annual income of $14,000,000 at an expense of $7,500,000, leaving a net income of $6,500,000.

They have schools of forestry, and in the kingdom two regular academies. In Saxony they have 400,000 acres, worked at an expense of $500,000; but they bring in a net revenue of three dollars per acre. In Bavaria, the state

forests cover 3,000,000 acres, and they return, after paying all expenses, about $1.50 per acre.

They plant annually 30,000 acres, requiring 35,000,000 plants and 1,000,000 pounds of seed.

In Austria, much of their domain has been sold of late years, but they now have nearly or quite 2,000,000 acres, which yield a net profit of twenty-five cents per acre.

In France, the government owns 7,500,000 acres of forests, while 15,000,000 acres are owned by the farmers and private corporations; but in one sense it may be said to be all under government control, for by a well regulated system of protecting and preserving, adopted by the government a number of years ago by purchase and by enactments, these vast forests are now not only a source of wealth for their commercial value, but by this system barren fields are becoming fertile, and thousands of acres which by their conformation were being washed away, are now protected and saved.

The French government have, at great expense, replanted vast and almost barren districts, and have established great forests along the sea shore where formerly the sand threatened to destroy large areas, and by this judicious method they have averted the evil, and this barren waste will in a few years be a source of revenue as well as benefiting in a climatic point.

In Russia, the government owns about 330,000,000 acres, and other parties some 150,000,000 acres. About forty per cent. of Russia in Europe is timber land, and these immense forests are placed under the care of a minister of the public domain, who has a director of forest department, with assistants. And the Russian government has within a few years established two schools of agriculture and forestry, one at St. Petersburg and the other at Moscow.

One hundred years ago Ontario was a forest country, and now it is only from ten to twenty per cent. of timber, with millions of acres of barren waste lands, and no increase to replace this waste of timber. In 1883, the province of Ontario distributed 15,000 copies of their forestry report, giving directions and instructions calculated to encourage and stimulate the planting of forest trees.

The legislation in these countries which I have mentioned is aimed at preservation and protection, and restrictions are laid upon private owners, so that the management of all private forests are in harmony with those of the government. They do this not so for the commercial value of the timber as they do to protect their countries in a sanitary point as well as to keep the available land in a state of productiveness.

France, though, may be an exception to this in one respect, for she imports annually about thirty million dollars worth of soft wood, mainly for building material, notwithstanding a very large per cent. of their building material is hard wood, grown at home.

The world is full of examples where by the ignorance or stupidity of man large areas of country once fertile, are now barren wastes. The entire coast of the Meditteranean, once the garden of the world, has been blighted by the process of denuding it of its once magnificent forests. A portion of this country belonging to Austria has of late years been reforested, at great expense, by the Austrian government.

Some of the West India islands that were once almost gardens of paradise were denuded of trees and are now nearly worthless. Facts in this direction could be multiplied indefinitely, showing very conclusively that "if we sow not neither shall we reap," or in other words, "if we sow to the wind we must expect to reap the whirlwind," for nature is an exacting school-master and will not be cheated.

Owing to the lack of correct data we have no definite means of knowing the number of acres of forest land in the United States, or its estimated value according to the kind or quality of its timber; for of farm lands we find from one-third to one-tenth or twentieth only in wood. And our forests, which now possess a commercial value, owned by private individuals or by the states or general government, are being fast swept away by the woodman's ax, with no provision for a future supply of the kinds of timber growing on such lands. And in those states where lumbering was once the great industry, it has ceased to be productive; and in

many instances towns that supported a busy population are at a stand-still, and show signs of decay.

Our own government does not seem to understand yet the necessity of protecting or preserving our forests, and only within a few years past has public opinion been in any way appraised of the fact that a time may come when we shall be obliged to protect our own timber resources.

In the year 1875, a few prominent men interested in forestry, issued a call to consider the matter of an organization, and they met in Chicago, September 10th of the same year, and organized the American Foresty Association, with John A. Warder, of Ohio, as president. This association a few years later took the name of the American Foresty Congress.

Through the efforts of this society mainly, congress passed an act to encourage the growth of timber on our western prairies, approved May 14th, 1878. Previous to this, or in the year 1876, congress passed an act authorizing certain inquiry and examinations to be made relating to the extent of our timber resources; or more properly, the manufacture and value of our exports to foreign countries. And under the direction of the commissioner of agriculture, Franklin B. Hough, of Lowville, New York, was appointed to this task; and from his reports to congress at different times, and also his reports upon the condition and resources of the timber supply in the old world, are we indebted more than to any other man in the United States for a proper knowledge of matters relating to foresty.

The timber act making provision for tree planting on our western prairies is nearly inoperative; though at the time was thought to be just the proper thing for our government to do. But any one who has ever been out west knows, that a tree claim has been a great boon to land speculators, and what was intended as a national gift has been the greatest fraud; for not one quarter section on an average, in a township under this act will be planted to timber. And if our government will withdraw this from market and lease for a long term of years, twenty or forty acres to each settler who will improve it by planting timber; or what would be better,

for our government to plant the timber, something might be accomplished in the right direction, not only to the country, but to the settlers themselves.

Not very much can be accomplished in the way of tree planting by private individuals. It must be done by large land owners, railway companies and by the general government. And railway companies should be compelled to plant all of their poor vacant land to forest trees. In a few instances they are doing this of their own accord, as a means of providing for a future supply of road ties.

In 1869, a company of men residing at Normal, Illinois, bought eight or nine sections of land in one of the counties of Iowa, and they commenced a system of tree planting by plowing up the central forty acres, and by the road sides, and now they are having valuable forests of timber. Their plantations consist of black walnut, box elder, white ash, and white willow. And Mr. Fell who has charge of the plantation says, "If I could have only one tree it should be the white willow."

In 1870, the counties of Buena Vista, Cherokee, Plymouth, Sioux, O'Brien, Lyon and Osceola, in Iowa, were in a state of nature nearly destitute of trees, and the county of Osceola had only one single tree within its borders, but to-day is each of these counties there are large groves of trees that are doing well.

A few years ago the barren, sandy lands of Cape Cod could be bought for twenty-five cents per acre, and large tracts were bought up at this price, and in some instances have been planted to pine trees, and these lands are now worth from two to five dollars per acre.

Two years ago, when the Forestry Congress met in Boston, some of the members visited the grounds of Mr. J. S. Fay, on Cape Cod, who has a forest of two hundred acres, which he has been planting for successive years, and now some of the trees are fifty feet in height, and form such a protection from the winds of the ocean that he is planting deciduous trees and they are succeeding well. It is easy enough to see that in a few years the whole face of our country could be changed, not only in a commercial value

for timber, but productive fields would take the place of now barren wastes. We have thousands and thousands of acres of sandy land in Wisconsin, which are, and always will be worthless unless some system is adopted by which they can be planted to forest trees.

In our day, perhaps, we may not see the necessity of this, but the years are not far away when our government, state and national, will adopt measures to reforest our waste lands.

Fifty years ago, the timber lands of Michigan and Wisconsin had no commercial value. Since then these lands have brought millions of dollars to their owners, and now are nearly worthless again because being stripped of their timber.

Ten years ago the timber lands of Oregon and Washington territories were hardly thought of as a visible supply of timber, and to-day some of out wealthy lumber companies are preparing to change their base of action to the western slope of our continent.

Those of us who have traveled over our lines of railways for the first few years, have seen the immense piles of railroad ties at the stations in the timber countries, and we are told that the visible supply is rapidly growing less. Some of our states, as well as Wisconsin, have offered a bounty or a rebate in taxes for trees planted by the road-side, and there is no reason why railway companies should not be compelled to plant trees on all of their lines, and in places where drifting snows impede the travel, permanent evergreen hedges would be an effectual barrier to snow blockades.

There is no country in the world possessing such a variety of forest trees as the United States, and no civilized country to-day but that is doing more for the protection of their forests than we. We have four hundred and twenty varieties of trees, and a large variety of them are valuable in the arts, and for economic and useful purposes in the various trades. But the most useful of these are found in small areas of country, and in comparatively limited quantities. The best and only timber now used by pattern mak-

ers in all our foundries is white or soft pine. Our best spoke and hub timber for carriages, is grown in Connecticut, and is getting so near exhausted that some of the timber land in that state, we are told, is worth six hundred dollars per acre. The whole western slope of our country does not produce timber fit to manufacture wagons or railway cars, and this must always be supplied from other sources.

Some of our states, by legal enactments or proclamations by the governor, have set apart arbor days. And this practice was brought about by suggestions from some of the members of the Forestry Congress, and first adopted in Cincinnati, Ohio, April 27, 1882. Since then, some of the states have set apart this day as a grand holiday, and schools and colleges plant groves and trees, in honor of some event, or departed friend or statesman. I think Nebraska was the first state who, by legal enactment, made this a holiday; and that state now has over 700,000 acres of timber planted by human hands. Kansas and other western states are falling into line, and I hope the practice will be so popular that arbor day will be a universal holiday for the nation; and our children not only taught to plant trees, but learn their names and value either for shade, ornament or other useful purposes.

The largest proportion of the settlers in our new western territories are not able to do much at tree planting, and there is no method or system contemplated in any county or section of country where an attempt has been made at tree planting. In my opinion all borders of streams and lakes in the west should be planted with trees. And there should be long belts of timber stretching across the country to break the force of the prevailing winds. If some such system as this had been adopted years ago, and the work entrusted to practical foresters we should by this time be receiving a revenue, and every settler be benefited far more than by the present system of free lands. There are now millions of acres of land in Minnesota and Dakota which are nearly worthless, which if planted to trees, would in thirty years well pay on the investment by the government.

If there were no other reasons for tree planting than the

money value for our own time, it would pay largely on the investment.

Mr. O. B. Galusha, in a lecture at the Industrial University of Illinois, in the year 1869, has this to say: A few miles from my residence are a few acres of ground which were cleared of timber sixteen years since. There was then left on the ground a growth of underbrush only, consisting of several varieties of oak, hickory, ash, and some other sorts. I have watched the growth of timber there from year to year until the present time, and am myself surprised at the result.

The land was worth when cleared, perhaps, twelve dollars per acre, not more. There have been taken from it during the last seven years poles equal in value probably to $10 per acre, and $150 per acre would hardly buy the trees now standing upon it.

He further remarks that this same land would sell for $50 per acre if all the timber was removed.

When I first came to this country, thirty-five years ago, I knew a wood lot of about twenty-five acres, principally burr oak. This soon came up with a thick growth of black, white, red and yellow oak, and to-day those trees will measure from eight to fourteen inches in diameter, of tall, straight specimens of timber.

A row of hard maples set out a few years later has yielded a bountiful supply of sap for sugar, or syrup for a number of years. An elm tree set out near my well on the old place will measure now twenty inches, or two feet in diameter, and would no doubt produce one cord of wood. Upon this basis it will be easy to see that a plot of ground of ten or twenty acres on a farm of eighty or one hundred and sixty acres, would be no mean investment even on our rich prairie soil.

So far in this paper my plea has been mainly: plant trees for their value in dollars and cents, but there is another side to this question which I would not dare to overlook, and that is the influence of our forests in protecting large areas of country from sweeping winds and also by retaining moisture in decaying leaves and in the humus of the soil.

And if facts will not warrant the assertion that an excess of timber will produce an excess of moisture or rainfall in any particular county, it is a well established fact that timber lands do prevent by the absorbtion in the soil the heavy rain fall which would immediately flow into our creeks and streams if allowed to fall upon bare fields and hillsides.

The French government found that thousands of acres of their tilable land was being washed away every year, and large fields in some instances were made nearly or quite worthless by this continued process. Lands were surveyed and either purchased or condemned, and at first much opposition was met with, but now their system of reforesting meets with universal favor, because of the benefits received by more productive fields, and a more humid atmosphere, and also an increasing source of wealth to the government.

The grove's were God's first temples, and trees and groves, and parks will always be the measure of goodness and greatness of a people whose God is the Lord of Hosts.

DISCUSSION.

Geo. J. Kellogg — I wish to offer a resolution embracing the lady speakers of our convention, Mrs. Huntley, Mrs. Tilson, Mrs. Hollister, Mrs. Campbell and also Mrs. J. M. Smith, and move that they be elected honorary members of this society.

Mrs. Campbell — I want to thank Mr. Kellogg, but I am a regular *bona fide* member.

Resolution adopted.

Mr. J. C. Kellogg — I want to offer a vote of thanks for these beautiful flowers. I do not know who brought them, but they are worth a resolution. Resolution adopted.

S. B. Hoxie — I think some of the ladies do not understand that if their husbands are members of the society, and pay their dollar, the ladies have a right to vote.

H. C. Adams — Before we proceed any further I wish to say that I have felt very much inspired and have been greatly instructed by the address Prof. Garfield has deliv-

ered. He has thought more about this matter than most of us, and I wish to move that this society — and I do not simply go over it as an ordinary form, but because I feel it — that this society tender him a vote of thanks for the able and instructive address we have listened to.

J. C. Kellogg — I would offer an amendment to that and move to make him also a life honorary member. Motion carried.

Pres. J. M. Smith — We can now listen to a few remarks with reference to Mr. Garfield's address.

S. B. Hoxie — I think it would be well to take up and discuss some of the views brought out by our brother from Michigan. There are so many points in his work that we ought not to let this opportunity pass. There are so many lessons that we might bring right home, especially in the matter of children learning of the common things they meet with every day. I am sure that should I ask the children in almost any neighborhood the names and varieties of the trees growing in their neighborhood they could not tell me. If you ask the children here how many varieties you have growing in your beautiful city here, they could not tell you. We have here in the United States over four hundaed varieties of trees. Here is an object lesson the children have right before them. When he was telling of taking a grape vine into the Sunday school class I thought of a similar experience I had. There is nothing that you can do to gain the attention of children like talking about common things. I wish you would talk about what Prof. Garfield has said rather than take up my address.

Pres. J. M. Smith — In our discussion we have had very little from the ladies. We should be glad to listen to them. I hope they will not consider themselves shut out from the discussion. Mrs. Campbell, we should be glad to hear from you.

Mrs. Campbell — I think it was a grand paper. I wish I had words to express my gratification.

Pres. J. M. Smith — Mr. Adams, I believe we have not heard from you to-day.

B. F. Adams — It is very seldom that I address a public assembly, but I have listened to Mr. Garfield with the same interest that many of you have manifested. There was one point in the address that I was very much interested in. It is this: He speaks of the impressions we can make upon young minds. We have some testimony on record corroborating the statement he made, and it was left on record by one whose name is as familiar as household words to the people of this country. I allude to the late Marshall P. Wilder, president of the American Pomological Society. Speaking of his early training in horticulture in a public speech on the occasion of his eighty-eighth birth day, to a gathering of men assembled in his honor to pay their respects to him at that time, he said: "Since my sainted mother took me into a garden to help hedge and keep it in order, there is no occupation or pursuit in which I have taken so much pleasure as in cultivating the garden." This he said at the age of eighty-eight years. We can see then the influence exerted by our early impressions. They creep out in boyhood and they appear in manhood and they are ever present when the frosts of age have whitened the head.

Pres. J. M. Smith — We have some delegates from Iowa whom we should be glad to hear from. Mr. Patten, we should like to hear from you.

Mr. Patten — I have been interested in the remarks that have been made upon the paper that was read by Mr. Garfield, and especially in the suggestion of the gentleman that was last upon the floor about the influence of our mothers upon us in this work of horticulture. I believe that I owe a debt of gratitude to my mother for the little taste I have in horticulture. I remember that when I was a child she was always gathering beautiful plants and flowers and that my father seemed to care very little about them other than in a general way. I remember her planting a little pear slip that a lady gave her, and for all I know the result of that planting stands to-day about ten miles north of Madison. At least twenty years after the planting it remained there as perfect as any of the forest trees around it. But not to be personal in this matter I would say that

we are all, old and young, students in this work of horticulture, and in the matter of forest planting as well as in general horticulture. It appears to me that we in this country need to arouse the older minds: that in the state of Iowa and the state of Wisconsin there are comparatively few who are really earnest horticultural workers. I can not speak of arousing the young people until we have aroused ourselves. I was struck with the remark of the last gentleman who read a paper. He says that the lake shores should be planted, and the waste places should be planted. All true. Every gentleman here acknowledges that, but how shall we accomplish it? In this country we have no method. We have no autocrat here that says so many trees shall be planted. We rely upon the education of the people. I think it should be the work of this society to endeavor to arouse public opinion on this subject. In my judgment, the American Pomological Association should take the initiatory in this matter, and should send a delegation, or send a list of names to their representatives in congress, appealing to them to take this matter into consideration before it is too late; it is already too late; but if we go to work in some methodical way we can in a few years arouse the people to the importance of this work, and we will see forests planted. The government has got to do this work, and the different states have got it to do. We need not only to enthuse our people on this subject of forest planting, but also on that of adorning their homes with trees; planting their lawns with trees. I am satisfied it would be safe to say that if twenty acres were planted in timber upon every quarter section of the soil of Iowa, Minnesota and Dakota, that the planting alone, saying nothing of the economic value of those forests, would be worth millions of dollars to each of those states in the protection they would give to the animals, in the saving of fuel and in the protection they would give to our homes. I believe we have never considered this question in its proper light in this country.

Pres. J. M. Smith—Is there anything further to be said upon this subject? I believe as the gentleman has stated, the question must be brought to the attention of congress

by our state societies, and we must take it in a commercial point of view.

A. G. Tuttle — No doubt the forests are being destroyed, but I believe that within the last year there has been more trees destroyed by the fires in the state and by the railroads, than by all the cutting that has been done in ten years. You can go miles and miles northwest of here, and see as far as you can see in every direction, nearly everything in the tree line burned over. I think it would be well to have a law compelling railroads to protect against fires and so protect against this wholesale destruction of the forests of this country.

Prof. Chas. W. Garfield — I want to say a word more. The meeting of the Pomological Society will occur the second week in September in the city of Boston. It will resolve itself somewhat into a memorial meeting in remembrance of the valued services of Colonel Wilder of this country. There will also be presented many valuable papers upon the science of pomology. Now I wish the State Horticultural Society would have at least one delegate to attend that convention. I can assure you he will return to you many times over the trouble and expense incurred in the new and rich things he will bring back to you. As secretary of that organization, I invite you to send us a delegate to Boston.

I thank you, sir, and this society, for the courtesies and treatment received here and the honor conferred upon me by your society. Lake Michigan may separate us in one way, but the work of horticulture so binds us together that no pride of state will ever over-ride the kindly feeling that exists between us. I now bid you all a kind good-bye.

Pres. J. M. Smith — We still have a little time. I should like to have the society take some action if you desire to send delegates to the Pomological Society, in Boston, and the American Horticultural Society, that meets in Cleveland next winter. If you desire to have them pay their own expenses, all right. I should like to have some expression from the society.

We have a short paper in memory of Mr. Wilder. If it is not too late we can have it now.

MARSHALL PINKNEY WILDER.

BY J. C. PLUMB.

The close of a life so full of weal to horticulture as was that of the subject of this sketch, is worthy of more than the mere mention possible in the brief space allotted to me, a life the ending of which, has called out more regret and honorable reference than that of any before in the pomological history of our country.

Col. Wilder was born at Ringe, New Hampshire, September 22, 1798, and died at his home near Boston, Massachusetts, December 16, 1886, in his eighty-ninth year. With only one year of academic schooling and three of private tuition from the "Village Clergyman" he chose the farm and business, rather than classics, and at the age of twenty-five became the head of a mercantile firm in Boston, from which time through life he was identified with the industrial business of that city as a merchant, and was officially connected with several insurance and banking companies; in all of which he was financially successful, amassing quite a fortune. He was at the same time, active in public matters; at twenty-six Colonel of state militia, and in later life commanded the Ancient and Honorable Artillery Company. From 1839 to 1854, he held several official positions in the Massachusetts House of Representatives and State Senate, with other political distinctions not necessary here to mention.

Long and successful as was his business, political and domestic life, it was in the field of horticulture that his greatest triumphs were won. His home grounds at Dorchester, evidenced his skill and taste as a gardener, florist and fruit grower, and which his delight was to show to all lovers of such art.

One writer has recently said, "besides a love for true garden

beauty, he was fond of experimenting and improving, always carrying with him a camel's hair pencil and a pair of tweezers, with which he used to cross-fertilize fruits and flowers at the opportune moment." Many of his seedlings so produced took high rank and brought him considerable sums of money. Strawberries, grapes and pears in numberless varieties filled his fruit garden, and their comparative merits were carefully noted by him."

The confusion of our nomenclature was thus to him made apparent, and in view of which, he became "the father of the American Pomological Society," and for nearly forty years was its able and only president, and lived to see it become the great power in our land for the conservation and dissemination of pomological science. While this was his favorate society and to which he gave large sums of money and much valuable time, he was the friend and patron of worthy individual and society effort in his own and other states, far beyond any record the world will see.

For fifty-six years he had been one of the chief supporters of the Massachusetts Horticultural Society, and provided in in his will for a permanent prize endowment to that society.

For the last thirty years of his life, Col. Wilder gave himself largely to the cause of American horticulture, and declining physical vigor seemed to add to his zeal for his favorite pursuit. Unable to attend the twentieth bienniel meeting of the American Pomological Society, held at Grand Rapids, Mich., in 1885, he sent most earnest words of congratulation and advice, closing with the following: "I console myself with the hope that you will accept the invitation of the Massachusetts Horticultural Society and come to Boston in 1887, where I may be permitted to lay off the robes of office with which you have so long honored me, unless ere that time I shall have been clothed with the robes of immortality, and gone up to gather celestial fruits, which ripen not in earthly climes."

It was a few years ago said of Mr. Wilder, "that he was at once the oldest and youngest man in the state, which migh t be attributed both to his love for rural pursuits and

his kind and loving heart, continually overflowing with regard to all."

The writer's personal correspondence with Mr. Wilder during the last ten years, extracts from which are here appended, witnesses to his largeness of heart, as well as sincere interest he took in our western life and progress.

Concerning his death, the call came suddenly. "Breakfasting with his family in his usual health, at half past ten the same morning his life work was done." A week later, his son, Edward B., writes me as follows:

"Very many thanks for your sympathy and expressions of respect and esteem for our venerable sire. It is a rich boon to his children to have such a parent. Few pass the long life he did in such intimate relations with the world at large, and retain such an unsullied character. Pomology to the last; the last touch of his pen, a few minutes before his translation from earth to heaven — we can call it nothing else — was to sign a letter written for him to his friend, Patrick Barry."

WORDS FROM WILDER.

(EXTRACTS FROM PERSONAL CORRESPONDENCE.)

DORCHESTER, Mass., Sept. 14, 1884.

* * * Thanks for the copies of the *Western Farmer*. Am glad Wisconsin is to be represented at the New Orleans Exhibition, and I hope all the other states will be there with their products, thus showing the capacity of our immense domain. * * *

Your horticultural society is progressive and doing excellently well under the guidance of noble men, who fight the icy king and the insect foes. And more, I much desire that they will assist us in reforming the catalogue of our fruits. Let us purge them from all indelicate, improperly long and useless names. * * * I notice what is reported in regard to the profit of small fruits, the culture of which is increasing so rapidly throughout our land. The Briton Blackberry (glad you have dropped the "Ancient") has produced far more abundantly than any other kind, and is perfectly hardy with me, and of very good quality.

Powdered hellebore, applied in season, is sure death to the rose, currant and gooseberry worm.

* * * Yes, lay down and cover with earth your raspberries and grapes, and you can grow them as well as we can. * * *

Remember that the American Pomological Society is to meet in Michi-

gan next year, and let Wisconsin come with her host of friends and fruits. * * * I am much interested in the reports of Prof. Budd and Mr. Gibbs in regard to Russian fruits, and from which we are to derive much benefit, especially in the northern sections of our country. We have in past time raised some excellent fruits of Russian origin, and among which, besides her apples, the Black Tartarean Cherry, in quality difficult to surpass. But our great reliance for the production of new fruits adapted to the cold regions of the north must ever be from the seed, either by natural or cross fertilization.

About your "agricultural college," I like what Mr. Curtis says (severe criticism). In regard to Massachusetts, let me say that I protested against its connection with Harvard College, even if we could have the Bessey fund of $400,000, and I attribute its prosperity to the fact that it is established upon an independent basis of its own.

Again Mr. Wilder writes, August 18, 1885: Please stir up your pomologists, that they and their good fruits may be on hand at Grand Rapids, and thus help on the benificent work of our grand old American Pomological Society.

As ever, yours,

MARSHALL P. WILDER.

To J. C. PLUMB.

PRESIDENT WILDER ON NEW FRUITS AND NAMES.

The later years of Mr. Wilder's life were largely devoted to two lines of improvement in our pomology. His Reform in Nomenclature, which the American Society so cordially adopted, and which has been also adopted in whole or in part by many state and local societies, provided for the adoption of simple names for all fruits, and rejecting all high-sounding as well as vulgar titles. "No more Generals, Captains, Presidents, Kings, Princes, ne-plus-ultra, or Hog-pen, Sheep-nose, Big Bob," etc., etc., and substitute Lucrative for "Belle Lucrative," Nellis for Winter Nellis, etc. As a busy man of business he saw that even his long life was too short, and the subject too sacred to be burdened with useless or debasing titles in the long lists of fruits.

The second point on which he grew more and more enthusiastic was that of New Fruits, and on which we quote from his last published address to his loved Society.

"And now in fulfillment of my promises to urge upon you while I live, the importance of producing from seed, new varieties adapted to the various soils and climates of our

vast territory. These are the means, and the only means which God and nature have provided for the improvement of our fruits.

Were these my last words I would again impress them upon you as of the utmost importance. With a careful study of the tendencies of varieties and a judicious selection of parents, we will go on to produce fruits which will be adapted to every clime where any species may be grown.

Thus Providence has placed in the hands of man, a power to assist nature in the production of her most perfect and beautiful creations. And whatever some may think of variations, evolution, transmutation, or transformation of species, the great fundamental laws of life and its reproduction will remain unchangeable and immutable as long as the earth bears a plant, or a tree yields fruit, or nature holds her place in the universe.

Nature is a kind handmaid, and, by her lovely creations, is constantly inviting us to come up and assist in her glorious conquests. Her voice is heard throughout the earth. To us, she says: "Come up and sit with me, and you shall have plenty and perfection. Come, and I will give you fruits which shall delight the eye, gratify the taste, and satisfy your souls."

O! Yes! Thou Queen of Grace,
We'll come and take thee at thy word;
We'll take thee, Nature, as a bride,
And, hand in hand and side by side,
Our loves and labors we will join,
And bless the hand that gives us thine.

You can do nothing better for the generations that are to follow us; and so again, with line upon line, and perhaps for the last time, I leave with you my old injunction: "*Plant the most mature and perfect seeds of the most hardy, vigorous, and valuable varieties and as a shorter process, insuring more certain and happy results, cross and hybridize our finest kinds for still greater excellence.*" Go on! Go on! while you live, and when we are gone, others will rise up to chant our old song:—

Plant the best seeds of all your best fruit,
Good fruits to raise that some lands may suit;
Fruits which shall live their blessings to shed,
On millions of souls when you shall be dead.

Plant! plant your best seeds — no longer doubt
That beautiful fruits you may create;
Fruits which, perchance, your name may enshrine.
In emblems of life and beauty to shine.

In conclusion let me quote the words of Mr. Wilder, which he so feelingly spoke, concerning the decease of his friend and co-worker, Charles Downing, as expressing more fully than any I can frame, the sentiment of a multitude of those who lament again, the loss of a noble man and eminent horticulturist.

"Dead; but his spirit is still with us, and will continue to inspire our souls, and the souls of those who succeed us, as long as a love of the beautiful in nature, of rural pleasures and of domestic comfort, shall have a place in the heart of mankind. His star has now set, but it has left a golden record which shall bring forth the fruits which he so much loved."

Adjourned until 7 oclock P. M.

Meeting called to order at 7 o'clock P. M.

Pres. J. M. Smith — Since our adjournment I have learned that Mr. Witt was an old friend of Marshall P. Wilder's, so the first thing we will listen to Mr. Witt for a few minutes.

Mr. Witt — *Mr. President, Ladies and Gentlemen:* — I was acquainted with Marshall P. Wilder in his early manhood, and knew all about him from his youth until the day of his death. I have never seen a notice of Col. Wilder's life and early manhood. Mr. Wilder was a born leader. In his boyhood and young manhood he took the place among the boys that he did in his mature years among the men. He was a noted boy. He was a person whom every one respected, and everything that was of good report could be said of

his youth and early monhood. In an early day he was connected with a choir of singers in Dr. Patterson's church in New Hampshire, and he was the leader of that choir for many years. He raised the standard of that choir higher and higher. It was through the instrumentality of Marshall P. Wilder that one of those old independent companies was formed that were at once the ornament and excellence of the old state militia laws. He was the first captain of that company and brought it up to a very high standard. From the position of captain of that company he rose to that of colonel of a New Hampshire regiment, and commanded that regiment in 1825. He was the peer of any man I ever saw to command a regiment. Soon after, in the spring of 1826, he came out of the service, and finding the town where he had made it his home, not large enough for his activities, he sold out his business and removed to Boston, with his father. There he entered the firm of some commission merchants. He was a most excellent man, and when such an one as Col. Marshall P. Wilder goes to his rest the world may well mourn.

Pres. J. M. Smith — Ladies and gentlemen, the first thing upon our programme this evening, is a paper by James Currie, of Milwaukee, but I understand that he can be with us to-morrow, and that Mr. Periam, of Chicago, who was to speak to morrow morning, cannot be with us to-morrow, so unless there are objections made we will listen to Mr. Periam, one of the editors of the *Farm and Stock Journal,* this evening. His subject is:

SMALL FRUITS IN CHICAGO.

BY JONATHAN PERIAM.

It is well known that Chicago is the greatest fruit distributing market in the world. Why this is so is not because it is the greatest center of population, but because its wonderful system of railways, radiating to every part of the Union, allows not only free, cheap and rapid transportation to Chicago, but as free, cheap, rapid and sure transpor-

tation to every other point, where fruits long since became a necessity of life, may be distributed in good, and comparatively fresh condition from where they were grown. The average man who has a suburban home will not raise the fruits his family consumes. There is a valid reason for this. Being near to some large city market he can buy them cheaper than he can produce them.

Why?

He must not only hire the labor to do the work, but he must hire expert labor — a man who understands not only how to plant and cultivate, but why a thing should be done in a certain way and at a certain time. The citizen or suburban resident has no time to give his supervision to this work, even if he knew how. It will bear repeating: He can buy cheaper than he can produce.

THE FARMER MUST RAISE HIS OWN.

Not so the farmer; the farmer, whose average distance from railways is somewhere about fifteen miles from the railway, city or village must either raise his vegetables and fruits or go without. The consequence is he goes without, oftentimes a long life, without the enjoyment by himself and family, of vegetables and fruits, that ought to furnish fully one-half of his daily fare. There are notable exceptions. I am not speaking of this class. The average man with the soil, and the means at hand, for cheaply producing these necessary adjuncts to profitable living, denies himself and family, year by year, except at comparatively long intervals, of articles of food that should daily grace his table. It costs him more each year to do without, than even to buy them. He could produce them for about one-half their cost in his village market. He neither raises nor buys. He pays doctors' bills that he might otherwise avoid. He and his family also lack that perfect nourishment of body, which also renders the mind acute, and hence lacks the ability to perform even labor in the most perfect manner. Labor is never perfect except thoughtful. Many farmers will even contend that his soil and climate is not congenial to fruit, when in fact it is only uncongenial to

some special varieties of fruits, among those adapted to the climate, and this in the face of the fact, staring him in the eyes, that right in his own neighborhood. I care not where that may be, some neighbor has an abundant and prolific garden, not only of vegetables and small fruits, but an orchard that seldom fails yearly to produce fruit enough for the family, and in abundant seasons has largely to spare.

WHENCE COME OUR FRUITS ?

Let us look for a moment from whence come the vast daily inpouring of fruits to Chicago, and the other great distributing cities of the country. They come from every habitable quarter of the globe. The shores of the Gulf and Central America, California, Bermuda and the West Indies, France, Spain, Italy, and the countries of the Mediterranean sea; all these contribute largely. Oranges, lemons, pine apples, bananas, figs and all dried fruits are abundant the year round, in some form, and cheap either in their fresh or preserved state. This is rendered possible by cheap and swift railway transit — that wonderful system that has brought up the value of western farms within the last forty years, from a wilderness of grass, going a begging at $1.25 an acre, to a value of $10, $20, $50, and $100 an acre, according as it is located near or far from the station. It has enabled the farmers of this great and fertile Mississippi Valley to barter at prices favorable to all, wheat, corn, barley, oats, horses, cattle, sheep, swine, chickens, eggs, milk, butter and cheese; the gardener, his potatoes, and other vegetable wealth; the horticulturist, his apples, pears, plums, cherries, grapes, nuts and all small fruits; has enabled them, I repeat, to barter these for necessaries and luxuries of life, for all that other countries can bestow, and upon a fair basis of value. There only remains then for the farmer, to enable him to enjoy life as well as the best, that he cultivate an orchard of select varieties of fruit, natural to the climate, a garden of vegetables, and of small fruits, with the same care and diligence he does his corn field, to enable him to live truly on the fat of the land. A single acre is ample.

Why then is it neglected?

The acre of corn costs from seven to ten dollars to cultivate and market. It brings the farmer from ten to fifteen dollars. The acre of garden costs him forty dollars to cultivate. The value of the product, at home, to eat, is worth from $100 to $150.

Would this interfere with the profits of the regular market gardener or small fruit growers?

Not at all.

Would it lessen or narrow the distribution of small fruits from great trade centers, like Chicago?

By no means. Most vegetables and small fruits perishable. If the farmer does not raise them, he does not have them, as he ought to have them, in their season. But, having acquired a taste for these things, witnessing, as he must, their value in improved health and spirit and activity in the family, he will buy more or less when out of the native season than he now does when trading at his village market.

Small fruits in the Chicago market are indeed a wonderful study. The strawberry season is now about at hand. They come first from Florida and other favorable gulf state points, and are intended for the palates of millionaires — at fifty cents to one dollar a box. By the first to the middle of April, the sun, marching north, has ripened its daily twelve miles stride so far toward the great city by the lake, that twenty-five cents the box is a fair value. Then the great middle class can take their strawberries and cream.

The fifteenth of May brings the strawberry season fairly well into Illinois, and no man is so poor that he may not eat occasionally, and the great laboring class may often find them on their table. So day by day the strawberry crop creeps nearer and nearer, until its season of ripening has come to within 100 miles of Chicago. There it stops — so far as sending car loads may be concerned.

Why is this? Berries are ripening in Michigan, and steamer after steamer pour the tribute of this great fruit state into the market. Between the 100 mile limit and Michigan sometimes comes a glut, and perhaps for a day or two strawberries are peddled out, even down to five cents a quart. But they soon rally. The laboring masses have got

a taste; the children cry for them; every little mouth eagerly sucks the grateful juice and gains health thereby, and prices again go to three boxes for a quarter.

Then comes in Wisconsin with her tribute to the general wealth of fruit, and Wisconsin strawberries are very apt to see the price go again to ten and even fifteen cents a box.

Why, again?

There is a beauty of color, a refreshing aroma, a grateful acid, or some other cause that makes them sought. Perhaps it is like the case of the athlete, who gets his second wind. The people get their second taste of this noblest of small fruits.

The same may be said to be the true state of the small fruit trade in Chicago. One fruit follows another, raspberries, currants, gooseberries, cherries, huckleberries, blackries — until late autumn finds the blackberry of the north going out, and the cranberry of Wisconsin in its full crimson beauty, and anti-malarial acidity, coming in by barrels full and in car loads.

WHAT MAKES FRUIT SELL.

First, quality; second, evenness; third, the name of the grower and packer of the fruit. There is still another important means of profit. Fruit must not only be of good quality but the package must be attractive, and in such packages as are generally recognized by the trade. Strawberries, firm raspberries and blackberries should always be in full quart boxes. The softer raspberries only in pint boxes. The man who tries to sneak in a steal upon the buyer, by using small boxes always cheats himself in the end. No men are better judges of quality, variety or quantity than dealers who buy to sell again. They may, it is true, be occasionally cheated in barrel fruits, at least until opened. The commission merchant, however, is always obliged to give rebate, else he could not hold his trade. He gets even on the next consignment from the same party. This class, however, never believe in the honesty of the commission man, and after cheating him once they try some other one, until at last they run through to the end of their

string, and surely find that they have made nothing by their dishonesty. Not only this, they create the impression that fruit men generally are dishonest. It yearly takes hard work of respectable horticultural societies to disabuse the false impression. An old commission merchant of Chicago, and a long time friend of mine, Mr. George, of 95 South Water street, has kindly furnished me much valuable information in relation to packing, shipping, how fruits are disposed of and returns made. Few men, even in the trade, understand the technics of the business better than he, and he also knows all about the growing of small fruits, having graduated from the garden, and he now owns a fruit farm at Racine, in your state.

ABOUT SHIPPING.

The general directions as to packages, marking and shipping, etc., may be stated as follows: All articles should be packed in clean and desirable packages, such as common sense would dictate. Use care to pack in the neatest possible manner. Never use packages for any fruit that have been used once for that or any other purpose. Above all do not ship green apples in barrels that have contained flour or sugar.

DO NOT BE ASHAMED OF YOUR NAME.

Articles sold by weight should have the gross and tare marked plainly on each package, and those sold by count should have the number contained.

The address should be marked plainly with marking ink on each package, also from whom consigned. Nail or tack an invoice on each package, and also send an invoice by mail.

Put your own name and address on each package. If you are known as an honest grower or packer, it is a guarantee of quality. If not, it shows you, at least, are not ashamed of your fruit.

SHIP ONLY MERCHANTABLE GOODS.

Let the quality of each package be as nearly alike as possible. Undersized fruit, mixed with better, always degrades

the good to that of the inferior. Above all things never seek to hide the inferior beneath the superior. It never paid any man in the long run. If the price will warrant, ship the under sized berries in separate crates. If not, use them ug in some way at home.

Mr. George holds that country shippers should make it their aim to send none but merchantable articles to Chicago, if they wish to obtain ready sales. Poor lots, not fit for use, and such which country shippers would not use themselves—they being good judges — should not be sent to market. It frequently occurs that freight charges are hardly obtainable for some consignments, and such cases always create dissatisfaction among shippers. Freight charges are no more for good articles than poor ones, and there is always better sale for merchantable goods than poor unsightly appearing lots. Shippers, also, should be careful in shipping, and also in making their purchases in the country.

Always fill berry boxes well, and ship full quart boxes. This will enable sellers to make quicker sales and obtain better prices than if the boxes were only half full, or the measure small. Do not put good fruit on top and poor on the bottom, for the sake of deception, as the fraud is generally detected, and will in the future injure the sale and reputation of your brand. Honesty is the best policy. It is easier to loose a good reputation than to regain it. Neither should you make the honest error of packing small berries with large, to fill spaces. The larger the berries are, and the fewer that go to make a full quart, the better the price. The same rule works with all fruits.

The first of small fruits — that may be shipped in larger packages later, as cherries, currants, gooseberries, whortleberries, cranberries, etc. — should be shipped in quart boxes. Sixteen boxes to the crate is a good number for ease in handling. Later these may be shipped in chests of drawers, and if of superior quality these should have compartments — a slight frame without top or bottom, that may be lifted out for ease in measuring.

Have handles to each case of drawers. It saves rough usage in transit, and it saves packages being turned upside

down in handling. There is only one more thing to add: Do not change your commission man lightly. Once your reputation is made it is the policy of any man to hold it. With every new agent your reputation is more or less new. The old agent, if honest and well known, can do better by you than any other. Nevertheless, all are eager to get consignments from men whose good reputation meets the buyer more than half way. The regular buyer seldom opens the packages of men who have made a reputation for honest measure and honest goods.

DISCUSSION.

H. C. Adams — I have been very much interested in that paper, and I think we ought to have an opportunity to ask some questions. It is a vital subject. He says there are three requisites necessary in sending fruit to the Chicago market. First is quality. Does that mean size or color?

Mr. Periam — It means that state of ripeness when picked by which they will reach the city in their best condition. Next it means size, and that among certain growers means quality.

H. C. Adams — Next is uniformity, and the next is the name of the man who grows them. How much is that worth? Suppose I sent in fruit of the best quality and put some man's name on it like Mr. Peffer or Mr. Kellogg. Would that damage the fruit in the market irretrievably?

Mr. Periam — I do not think any package that had Father Peffer's name on it would be hurt very much for a respectable commission man, and neither a package that had Mr. Kellogg's name on.

I want to say that the shipping of inferior fruits with superior fruits ought never to be done when it comes to strawberries and raspberries. With cranberries and huckleberries it is less injurious; but the uniformity of size in strawberries especially, is what sells them.

A. L. Hatch — Can you give us any information as to

the keeping of fruit as regards picking and handling? Some pickers think ventilation necessary.

Mr. Periam — You can ship perishable fruits any long distance without first cooling them, but dealers tell me that the berries that are not cooled are apt to come in a mushy condition. I consider it bad to allow a current of air to draw through the boxes.

H. C. Adams — I should like to ask if there is any hope in the Chicago market for a man who raises first-class fruit and puts his own name on the boxes to go right through the season, and get a fair, remunerative price for it?

Mr. Periam—Yes, there is no doubt about it. The late Dr. Hull, who was for years a resident of the state of Illinois, and a very careful fruit grower, became displeased with the prices he got for his fruits. They were exceedingly fine. He came to Chicago and sold his own fruits. He practiced that for three years, and after the first year he never had a package opened. It went as a matter of course. Even my friend Mr. Adams, if he will be honest and ship his fruits in good condition for the first few packages, can secure a certain market.

H. C. Adams—That is encouraging.

Pres. J. M. Smith—There is no doubt but what a person's reputation is worth a good deal to him in selling fruit and vegetables. A number of years ago I was in a commission house that I had dealt with a number of years. A drummer came into the store, and I was in the back part of the room. He was trying to sell the merchant new goods, and the merchant objected to buying them on account of their not being known. The drummer was arguing that the goods were all right and that it would make no difference. I was standing where I could hear what was said, and I heard the merchant say, "do you see that man in the back end of the store? He is a large gardener and we have bought a great many goods of him. If my customers only know that I send them fruits from his garden it is all right. They know they will be good." I thought that was one of the finest compliments I ever received. Whenever I ship-

ped a package of goods that was a little poor I always made it a rule to write to the merchant and tell him that it was not quite up to the standard.

G. J. Kellogg—I would recommend to Mr. Adams that he use Mr. Smith's name.

Pres. J. M. Smith—The next thing upon our list is "Life of Women on Farms, as It Is and as It Should Be," by Mrs. Hollister. I understand that Mrs. Hollister has not arrived yet, and in her absence we will listen to Mrs. Campbell, of Evansville.

ETHICS OF HORTICULTURE.

By VIE H. CAMPBELL.

"As a man thinketh so is he," may well be supplemented by the expression, as a man worketh so is he. When man, through the exertion necessary to applied effort, has become self-sustaining, he has climbed the first round of the ladder of individual existence — has become an important factor in the industries of the world.

The primal man — possessing only the most limited mental outreach, feeling but the promptings of physical needs—was stimulated to only a sufficent amount of exertion necessary to provide for those demands, viz., food and shelter. As his ideas of each were very crude his efforts to obtain them were sluggish and limited and were only stimulated by immediate demand, and he manifested little or no desire to provide for future emergencies. But, after a period of slow evolution, the inner man was developed to a degree that the needs of the individual were largely multiplied. Especially would this be the case if he dwelt in a climate sufficiently rigorous to give him brain stimulus, if it was too rigorous he would remain enervated and sluggish as in the other extreme. As his wants became multiplied new appliances for obtaining those necessities became necessary and his hands, directed by his crude ideas, began clumsily to fashion them and he had climbed another round of the ladder.

Man has made great advancement in the scale of human progress when his æsthetical nature has developed to a degree that prompts him to surround himself with the beautiful and to cultivate fruits and flowers. He has then advanced sufficiently to dignify the labor that has developed and glorified him; that has made him the fittest to survive. For:—

> "Labor is life. 'Tis the still water faileth,
> Idleness ever despaireth—bewaileth.

Although labor tends to individualize and energize, yet man makes no intellectual advancement by labor mechanically performed. He who merely plods along will never meet with marked success, for to succeed in any profession one must have a real love — a stirring enthusiasm — for his work; an enthusiasm born of *love of the work* — an enthusiasm which lifts it above drudgery. Especially is this essential to perfect success in the profession of horticulture. The ethical culture of the horticulturist should be of the broadest kind. Honesty of purpose and integrity in dealing with his fellow man should be strongly defined in his code of ethics. Benevolence, conscientiousness, punctuality and order should be the cardinal points in his character, and tributary to these, all other qualities that tend toward the advancement and elevation of the individual.

It is an incontrovertible fact that the nature of a man's business vitally affects his character on both its moral and intellectual sides. There is a peculiar beauty to be found in horticultural pursuits — an ineffable charm and delicacy in watching the growth and caring for fruits and flowers that constantly tends towards the development of a higher moral and intellectual life, for no one will deny that there is a moral development in beauty itself for the individual who possesses a sense of appreciation, and he will be uplifted by it; its influence on him will only be limited by his ability — whether natural or cultivated — to appreciate the beautiful in the world. The indifferent eye sees no beauty in his lines of life, while the æsthetic eye sees beauty in every shrub and wayside flower. While each expanding bud preaches a

sermon of love to the one, the other passes it by unheeded, The difference is in the individual, the object is the same.

Wardsworth says:

> "Who has no inward beauty none perceives,
> 'Though all around is beautiful."

And Coleridge says:

> "We receive but what we give,
> And in our lives alone does natue live."

Hence the profession and study of horticulture would seem to the casual observer to be one unending round of delightful and pleasant duties. The horticulturist lives close to nature's great heart, and to him she confides her inmost secrets; to him she discloses the wonderful problem of assimilation and growth. Through the propagation of her fruits and flowers she reveals to him the laws which govern the material world. She is his hand-maiden, and by her aid he watches the scale of gradation from the lowest form of organism to man. Her book is open to him, and on its pages he reads laws that are not changed in higher forms of life. He knows that what some are pleased to call sports, in the vegetable world, are simply the results of higher causes little understood; that nature never makes mistakes, takes freaks, nor produces "sports."

Yet with all the fascinations of the study and work connected with the profession of horticulture, the high road to success is far from being a smooth one. The horticulturist is constantly called upon to deal with new factors; new avenues of exchange are being opened.

Propagation and cross-fertilization constantly produce new varieties which must be carefully tested and the good culled out from the worthless. Climatic changes have to be met which require new methods of adaptation. The present era of sharp competition is doing much to change the relation of the horticulturist to his profession, and to be able to acquire any degree of pecuinary success he must be fully alive to seek out and adopt every agency for the enlargement of his knowledge of the facts surrounding him and

the wider relations to which his interests are constantly tending: greater efforts must be put forth to provide for better methods.

To acquire any possible degree of success, there is necessity for mental activity — a hundred times more so than was the case a half century ago.

He can no longer follow in the furrow which his predecessors have turned, but must strike out new lands for himself. Horticulturists will have accomplished much toward driving out the unequal and damaging competition driven by the oily-tongued tree peddler with his wonderful and unnatural productions if they will confine themselves a little more closely to the text of the golden rule and cultivate conscientiousness more.

A perfect confidence, once established between them and their patrons, will not allow the intervention of those dishonest scavengers who reap the fruit of honest men's toil. A few years ago we purchased a bill of fruit trees of a well-known nursery man, and among them were four crab apples, said to be Whitney's No. 20, Briar Sweet, Transcendant and Hyslop. But two of the trees have ever fruited, and they bear fruit of an inferior quality and exactly alike. We could not have been confidenced much worse if we had dealt with Mr. "oily-tongued-tree-peddler."

In the course of evolution, new generations outgrow the conditions of preceding ones; new words are coined, and the old words receive new definitions. The word Horticulture, in the last quarter of a century, has grown to mean tenfold more than it did formerly, and, in its larger signification, covers a wide range. It has outgrown its former restricted definition, and is now regarded as a science which includes not only the modern sciences and arts which relate to the orchard, the garden, the vineyard and the forest, which is essential in our rigorous climate for the protection of them all, but also relates to all that embellishes the home, the park, the public highway and the farm, as well as to other branches of industry that directly affect all of these interests. With the broader meaning of the term there is

no need of the modern horticulturist growing narrow. His education must be of the broadest kind; let him leave the narrowness — the "one idea" — to those in some of the so-called learned professions who are only educated in one particular line of thought. I have been pained to note a disposition among some of our leading horticulturists, at the conventions I have attended, to crowd out everything not strictly relative to the cultivation of fruit and flowers. I have noticed the shrug and frown of impatience and the inclination to check discussion when papers were presented on subjects that related to the home and its outlook for a better regime in the future. I have been sorry to see this tendency, because I feel that all these things are necessary to the broader development, and the horticulturist should guard against everything that will tend to make him warped and one-sided in his nature; he must uproot all these tendencies to narrowness, and not tolerate them any more than he would the distorted and unsymetrical tree.

The evolution in ethical culture which the horticulturist is sure to experience very largely, affords an imposing outlook, for his future, virtue and happiness are inseparable in the goal which he approaches in a steady line of advancement. Nature herself leads him on, and he instinctively feels the assurance, within himself, of victory.

Ceaselessly bent upon the advancement of his profession, restlessly at work improving the conditions of his existence, he simultaneously strengthens his moral life, while at the same time the influence of his own right life will serve as an inspiration to others.

A beautiful faith is the faith in the upward tendency of humanity; it renders easy the numerous battles, the countless sacrifices and the dangers that betide the way.

Although we meet at these conventions, give cordial greetings, read papers, discuss different methods, and part again with regretful good-byes, we are, unconsciously perhaps, marking epochs in the work, making history and making horticultural literature that may serve as stepping-stones for those upon whom our mantles may fall, and it is to be hoped that we may leave some light-house built upon

our rock of experience, that may warn others of reefs of danger, whereon we have been well-nigh stranded. And although the obstacles that we may meet may often seem too great to be overcome, and our progress so slow that we can scarcely note any advancement, let us not forget that—

"Heaven is not reached by a single bound;
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to the summit round by round.

I count this thing to be grandly true;
That a noble deed is a step toward God—
Lifting the soul from a common sod
To a purer air and a broader view.

We rise by things that are under our feet;
By what we have mastered of good and gain,
By the pride deposed and passion slain,
And the vanquished ills that we daily meet.

Only in dreams is a ladder thrown,
From the weary earth to the sapphire walls;
But the dream departs, and the vision falls,
And the sleeper awakes on his pillow of stone.

Heaven is not reached by a single bound;
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to the summit round by round."

DISCUSSION.

Pres. J. M. Smith — We can give some time now to the discussion of this most excellent paper.

B. S. Hoxie — I want to speak of that word used by the speaker and that we hear so often, especially at farmers' conventions — that word "drudgery." I think she defined it well. I am ashamed when I go up and down the state to meet a farmer who talks about his work as drudgery. I am ashamed to know farmers who love to call their work drudgery. Would you consider an act performed for a sick or dy-

ing friend of yours, drudgery? I like to look upon all honest labor as pleasant labor, and there certainly can be no more honorable occupation than tilling the soil. You find farmers to whom perhaps the word might apply. Everything looks as though they did not care whether it was done in season or out of season, and you sometimes see such business men, but not often. Talk about a business man — if a man invests fifty cents in a peanut stand he is called a business man, but if a farmer has fifteen or twenty thousand dollars invested in a good farm he does not have that title. Which requires the most brain? If you should organize a business men's association you would not take me in. Now when men learn to designate their professions properly we will hear less about this work drudgery. I do not consider anything drudgery that I am engaged in.

J. S. Stickney — I want to draw a dividing line, a very distinct and well defined line. A man that is master of his business, his labors are all pleasant, his word is a pleasure, but where the business is master of the man then it is drudgery. It cannot be anything else. It all rests with ourselves whether our work will be a pleasure or whether it will be just a little ahead of us. There is the point. It all rests with ourselves. There is no profession that will admit of so much independence as the profession of farming or horticulture, or deriving support from the soil.

H. C. Adams — I do not like to talk too much, but I have been very much disappointed in this paper. I came here with my mind fully made up that if this lady said something I did not agree with I should pitch into her; but I haven't a chance. I think the ladies work under a disadvantage. Everyone seems to think that whatever a lady says must be met with approbation whether you agree with her or not. I do not think this a proper sentiment. After having a talk with Mrs. Campbell this evening I made up my mind to pick her up on some point and I cannot do it, and I am disappointed about it.

Mr. Stickney says this matter of drudgery rests wholly with us. I do not believe that is so. I think it rests with

us to a considerable degree, but in my own experience, and from my observation, I find that there is more or less drudgery connected with every kind of business or profession in life. Now, I do not like to work in certain lines of my profession, and I am working just as hard as I can to get into a position where I shall not have to do these things. I do things in my business every day that I do not like to do. Every merchant does it. He denies himself a great many of the social pleasures which all men and women enjoy. I do not believe there is a profession in the world where there is not drudgery. I cannot enjoy working around in the strawberry bed all day. While there are a great many pleasant things in this business, on the other hand there is much of drudgery. But the best things of life come through this drudgery, and it is best to take it just as it comes to us. It is best to sacrifice some personal feeling in order to acquire that standing that money alone gives. Money means power; power in political circles, power in business circles, power to do those good things that every good man wants to do, power to clothe our wives and children as we want to clothe them, power to have the books we want to read, power to cover our walls with beautiful pictures, and power to do all those things which will ennoble our minds and fit us for a more perfect enjoyment of life.

Pres. Smith — This has been a very interesting discussion, but I believe we are now ready for the next paper, if Mrs. Hollister will please come forward.

LIFE OF WOMEN ON FARMS, AS IT IS, AND AS IT SHOULD BE.

BY MRS. ALURA COLLINS HOLLISTER.

As it is, it is a little discouraging to look at, and it is small wonder that farmers' wives feel just a little as if theirs is the hardest lot in the world. Many *farmers* feel that they have a hard time, too, and farmers' sons are repelled from the farm because the work seems so hard, so unremitting. Yet

these same sons, after they have tried the worse treadmill of the store, either as employer or employe; of the various kinds of mechanical labor in which their hands learn some particular cunning and lose the old familiarity with all kinds of cunning in labor; or of the professions, worse treadmill still; these same sons, who may have made moan that farmers' sons get no time to read, after a few years of unprofitable reading of the mind-enervating daily paper of the city, would gladly return to the farm if they had one to return to. But a woman, once released from *her* treadmill on the farm seldom desires to return to it. Why is this? Not because the woman works so much harder than the man, I claim, although I acknowledge of course that a woman who bears many children, especially if there be a debt on the farm, has greater burdens than her husband, but with average families and average financial success the husband and wife work equally hard upon the farm and in return what do they receive? They *ought* to receive, true home comforts, independence of thought and life, time to read and think, fine physical health, a home in old age and ability to enjoy it. Just here is where the *should* be of a woman's life on the farm comes in. Her life is a treadmill generally, because she misses nearly all that makes life endurable to her husband. He is out of doors nearly all the day, drawing in great draughts of life, health, and strength with all his unremitting toil; he goes to mill and to market, to postoffice and to town meetings and elections, has errands to his neighbors; and in each place, from each one he meets, he draws thought, inspiration for his work. His neighbor tells him that the President has vetoed some bill or signed some bill and tells him of the reasons for the veto perchance, and together they discuss the reasons; at mill and at market he meets other neighbors who discuss with him questions of finance, tariff and foreign affairs as they understand them; at the postoffice he finds his political weekly paper, possibly the papers of each political faith, he finds his agricultural paper full to repletion of good things and he, possibly, reads these to *himself* at home; at town meetings and at elections he

meets all neighbors and they get outside the narrow routine of home life into the broader home life of the whole community, of the state, of the nation, of the world. He *ought* to be broad and strong in his physical and mental life, it would be a shame if he were not.

On the other hand, his wife seldom gets out of doors long enough to do her any good—she doesn't realize that the *whiffs* of fresh air she gets are not enough to help her to endure the stifling heat of that kitchen stove. She wants to do all she can toward lifting the debt, and so she struggles on without help in the kitchen, and generally, with several little children about her. They are about all the company she has. All she needs, you say! Nay, not so. I yield to no one in love for childhood's ways and thoughts, but I want some ways and thoughts besides theirs to incite me to my best. When I taught little children, I sought more advanced reading,sought lectures,sought the company of people who never thought of the schoolroom,that I might not "fall into ruts," that I might not become so habituated to childish ways and thoughts that I should be unable to think of anything else. This average farm mother seldom goes among her neighbors. Company is a great event to be prepared for with so much labor as to make it a dread. When she goes to the neighboring village she hurries through her purchases and is so worried over them that she scarcely sees the entrance of the woman who might give her a thought to refresh her ; she may go to church, but she must take all her children, and it is no small job to dress them for church, even if she dresses them plainly, and she is too tired to appreciate the thought the sermon contained for her. She reads little, she sees little of life, she loses hope, faith, courage. She often tells young girls that if they know when they are well off they will not marry, and she tells older unmarried "girls" that they have shown good sense ; she gets year by year to care more for the *money* that all this hard work brings, and she forgets that life was not given her simply to bear children and save money. Have I made too dark a picture ? I know there are some

bright exceptions, but those belong largely to the second part of my subject. Life of women on farms as it should be, and I turn with pleasure to it, for I feel sure that it is coming. Here the mother not only bears children but rears them intelligently; not only helps to save money but helps to spend it to make life better worth the living; if she is unable to afford a girl to help her about work, she takes turns with her husband in going out among people; he stays at home with the babies some evenings and she goes with neighbors and both are better citizens, better parents, for her enlarged thought, her cheerfulness given to her by contact with people outside of home. But this is not all I want her life to be when it is as it should be. Perhaps some of my dreams of her life as it should be, are utopian. I can tell you better whether they are or not ten years from now; for the present, I grant they are largely theory, but I believe they are common sense theory.

I want the woman on the farm to go visiting more, and have company more. I want her to set her neighbors a good example in the *method* of entertaining. I want her to set a simple table, one which will not so completely use up all her energies that she cannot enjoy her company. I want her to spend less time in trying to keep pace with the habits of dress of the mother in the village, who has more time to spend on such things. I want her to dress herself and her children so comfortably, so healthfully, so plainly that she need not be continually worrying over her sewing and ironing. I want her to be emancipated from bed quilts and rag carpets, body, mind and soul-destroying appliances that they are. I want her to accustom her children to early hours for bed, and then I want her and her husband to read *together* books which will broaden the minds of both. I want her to teach her children the good old adage, "Children should be seen and not heard," when the father reads aloud to her in the few spare moments he may have in the house. I want children and mother to profit by the outlook that the father enjoys. I want her to give the older children care of the younger ones, so that in a very few years

she may have help from them, if she takes them away from home, or can leave them at home without fear, while she goes among her neighbors for a little brightness. I want her to get out doors, to feel such an interest in every part of the farm that she will take a walk to some part of it almost every day, or will do some almost daily work in the garden.

A carelessly kept flower garden is not out-door exercise enough. If it is well kept, it may be enough, but the woman who emancipates herself from senseless demands of dress and food, may do more than keep a flower garden; she may make herself an adept in the care of small quantities of small fruits, or in the growing of celery, of cabbage, of radishes; or she may undertake to study the habits of our fast-disappearing wild flowers, and have a little bed of ferns and orchids, of delicate hepaticas and graceful dicentras; and with every breath of fresh air she will draw in fresh strength for the trials of the indoor life, and perchance will strengthen the young life so dependent upon hers.

I have been wondering if we might not do some missionary work, save some soul from death, in the meantime. Perhaps I am proposing too much but so many times when I lived in Milwaukee and saw wretched houses and wretched lives, saw the forgotten, the unloved, the uncared for children of humanity, I have longed for country homes for them, and I have wondered if such homes might not save them from the certain sin and sorrow of the future. I have wondered if a true home and love and trust for these waifs of humanity might not save their bodies, minds and souls from destruction, and if the farmer's wife might not train up a loving, helpful adopted daughter. Last, but far from least, I want all mothers but especially these farm mothers to not only talk and read with the fathers on questions concerning the greater homes including the less, but to feel that they too, are responsible for the right conduct of all these forms of government. I want the motherhood to stand equal, side by side, with the fatherhood, and together study and plan for best results. I want no one-sided government in home

or nation, for with one-sided government comes one-sided development of character. I want the mother to think, to act, to vote, with the father, that the motherhood may match the fatherhood of this generation, that the life of the woman on the farm may be a joy to herself, to her husband, to her children, to all about her; and that may it be an inspiration to her neighbor for better living.

DISCUSSION.

A. L. Hatch — I am glad to have heard this paper. I think a portion of it is for the especial delectation of my wife, especially the rag carpet business.

Pres. Smith — I think it would be better for Mrs. Hatch to give her side of the question. I do not think she is exactly satisfied with what her husband tells us.

Mr. Anderson — I was certainly very much pleased with that paper, having lived on the farm so long and also having lived in the city. I think the farmer's wife perhaps lives as comfortably and works no harder than the city man's wife.

I think they live as comfortably and are perhaps as well provided for as the city man's wife. Of course all farmers do not have all of the comforts they ought to have, nor do all city people. We farmers have to work. If a farmer hires a girl for his wife she has as much time to visit and read as the woman living in the city has for visiting her friends, relations and acquaintanances. My impression is that the average farmer and his wife certainly enjoy life as well as the working man of the city, and his wife and family. I think it is a mistake to think the farmer's wife is overworked.

G. J. Kellogg—There is a good deal of fact portrayed in the last paper read, in the fore part of it, that is vital to a large majority of farmers. Of course we are not all farmers, but the drudgery of the home may be very much lessened for the wife if the man is of the right sort. If he goes to the barnyard and comes in without changing his overshoes ; if

he does not help about making the home comfortable in little ways, it makes it all the harder for the wife. As the lady says, the home should be provided with the best of reading matter. Each child should have its own paper. There are a few good papers in the land, but there is not a daily fit to put into any household. There are a few good weeklies, and there are some monthlies that are very excellent. We all ought to go forth and practice what we have heard preached.

H. C. Adams — I want to enter a protest upon one point in the paper. I noticed Mr. Kellogg avoided it. It is this: That the head of the house should stay at home and let the wife go out. I do not think that is just practical. If my wife should set out to call upon all the neighbors and leave me at home to take care of the children, I not having had any training and having no capacity for bringing them up, I think she would be apt to find things in bad shape when she got home.

I fully sympathize with the lady about the rag carpet business. A man comes home from his work all tired out, and there his wife will sit all the evening and sew carpet rags. He comes in the house in a hurry sometimes, and perhaps he may step on one of those balls and then there is trouble. Then again, we have some very pleasant associations lingering about our old clothes, and perhaps he may come in and want that old pair of pants and his wife tells him she has just put them into the carpet rags. I have a good deal of sympathy for the man whose wife makes rag carpet.

A. L. Hatch — I do not think very many women spend much time making rag carpet if they do not have to scrub a little. I am sorry for Mr. Adams if he cannot take care of the children one evening for his wife.

Mrs. Campbell — I am not sorry for Mr. Adams, but I am sorry for Mrs. Adams.

Pres. Smith — The great trouble with Mr. Adams is he assumes he is an average man, and he makes a mistake.

I want to say a few words in regard to the drudgery of farm and horticultural labor. It does not seem to me that

anything we have the control of ought to be termed drudgery. There are times when we have to work, and work hard, but it does not follow that it is drudgery because we have to work hard. It has been my fortune to be on confidential terms with quite a number of merchants, and if there are any men on the face of the earth who have to work hard, they are the men engaged in mercantile life. So far as the world knew, they were doing a good business. They were well dressed, but they worked more hours in a day than ten, and not one in a hundred knew of the care and anxiety they went through. I have known a number of such men. I have known a good many farmers that lived as I have been sorry to see them live; as there was no necessity for their living. They were always behind with their work, and, as a matter of course, their wives were behind with theirs. Years ago, when I let my sons be managers in my work, one of the first rules was, "don't let the work get ahead of you." I authorized the one who was foreman, "don't let the work get ahead of you. Hire all you want. I will find ways and means to pay for them somehow. Keep a little ahead of your work all the time." I am very certain that that has been one reason of our success, such as it has been. We always tried to be so up with our work that if the boys wanted to go and spend a day or two, nothing would suffer. I remember, years ago, a son of one of our neighbors was helping us, and I was saying that the work was getting behind, and that we must hire more help, when my boys came up and told of some other boys who were going hunting, and asked if they might go. I said yes. I never should have thought of it again if it had not been for that young man. After the boys were gone, he said, "Here, you were talking about having to hire more men, and the next thing you let your boys go off hunting. Our father would not let us do that. He would thrash the hides off our backs if we had even asked." I took the trouble to find out something about that man. He was mean and ugly to his whole family down to his wife, horses and dogs, and the result was that he was left in his old age, and nobody cared

for him. His daughter got married the first chance she had, and his children all went off and left him. He made the lives of everybody about him unpleasant. It is not the way to do, and we drive our children away from home by it. Agriculture is the pleasantest work, and horticulture is the next to it. I have been a farmer a good many years, and a gardener, and I know about both. I am getting to be an old man now. If I could go back to my young days, I know of no business in the world I would be so anxious to take hold of as some branches of horticulture and agriculture.

Adjourned.

Meeting called to order Friday morning at 9 o'clock.

A. L. Hatch read report of committee on revision of fruit list, which report was adopted.

Mr. Stickney read report of committee on plants and trees.

Mr. Peffer — You do not put in the oak.

Mr. Stickney — They do not really come within the limit of trees that are grown in a nursery to be transplanted.

Pres. Smith — Why not put in the white oak?

Mr. Stickney — I thought that over and left it out simply because it had been left out before.

Pres. Smith — I would suggest the propriety of inserting the white oak.

Mr. Stickney — I would like to add it and submit it with the others.

Mrs. Campbell — From a woman's standpoint I would object to the lilac. It spreads so. I never shall forget the efforts we made to clear out three rows of lilacs on our place.

Mr. Stickney — It should be planted at the back door to cover some unsightly place.

Mr. Phœnix — It seems to me this report should be taken up by sections.

Pres. Smith — It can be read again by sections; the secretary can read it section by section.

Mr. Phœnix —I should like to ask if the black cherry is not worthy of going into the list?

Mr. Stickney — I am perfectly willing to accept the black cherry. While the black cherry is an elegant wood, we have cherry trees that are more useful, and the question arises whether we or our children will live long enough to see any good from a tree that is so very slow to grow. I do not know of a black cherry tree that has attained the age of much usefulness for timber.

A voice — I recommend the blooming bitter sweet be added.

Mr. Stickney — I accept that.

It was also moved and carried that the wild black cherry be put into list of the timber trees.

A. L. Hatch — There is one variety that I should like to recommend, and that is the black alder. It is one of the finest shrubs that we have. It is a member of the holly family I believe. The foliage is very perfect, and it is a fine healthy shrub and I would rather have it than any shrub mentioned on the list.

The report was then adopted with the amendments made.

Pres. Smith — I think we had better have the treasurer's report next.

Mr. Anderson — I will say to you that this report of mine is a pretty long one, and to read it all over would be unnecessary.

The report was accepted.

TREASURER'S REPORT.

February 15, 1887, *Wisconsin State Horticultural Society in Account with M. ANDERSON, Treasurer.*

CREDIT.

1886.			
Feb.	1.	By balance in treasury	$283 11
Feb.	4.	By membership dues received in Madison	53 00
Feb.	4.	By order of Pres. Smith on State Treasury	500 00
Feb.	24.	By membership dues from B. Olds (Clinton, Wis.)	1 00
Feb.	25.	By membership dues from Asa N. Seymour (Mazo)	1 00
Feb.	25.	By membership dues from A. A. Arnold	1 00
March	2.	By membership dues from S. S. Field, Troy Wis.	1 00

March	3.	By membership dues from C. M. Fenlon, Weyawega, Wis	$1 00
March	3.	By membership dues from F. W. London, Janesville, Wis	1 00
March	12.	By membership dues from R. D. Wilson, Plattsville, Wis	1 00
April	10.	By membership dues from W. T. Innis, West Rosendale, Wis	1 00
June	17.	By membership dues from V. H. Campbell, Evansville, Wis	1 00
Sept.		By membership dues from Wm. Reed, of North Prairie for the year 1887	1 00
Feb.	4.	By order of President Smith on State Treasury	500 00
Feb.	4.	By check from H. C. Adams	8 00
Total			$1,354 11

Wisconsin State Horticultural Society in Account with M. ANDERSON, Treasurer.

DEBIT.

1886.			
Feb.	4.	To voucher No. 81	$6 35
Feb.	4.	To voucher No. 82	6 00
Feb.	4.	To voucher No. 83	25 00
Feb.	4.	To voucher No. 84	1 55
Feb.	4.	To voucher No. 85	1 76
Feb.	4.	To voucher No. 86	10 00
Feb.	4.	To voucher No. 87	11 00
Feb.	4.	To voucher No. 88	2 75
Feb.	4.	To voucher No. 89	7 75
Feb.	4.	To voucher No. 90	19 44
Feb.	4.	To order of President Smith to A. G. Tuttle	8 49
Feb.	4.	To voucher No. 91	48 00
Feb.	4.	To voucher No. 92	33 00
Feb.	4.	To voucher No. 93	9 00
Feb.	4.	To voucher No. 94	5 00
Feb.	4.	To voucher No. 95	9 00
Feb.	4.	To voucher No. 96	8 00
Feb.	4.	To voucher No. 97	10 50
Feb.	4.	To voucher No. 98	1 00
Feb.	4.	To voucher No. 99	1 00
Feb.	4.	To voucher No. 100	10 05
Feb.	9.	To voucher No. 101	37 09
April	3.	To voucher No. 102	11 45
April	3.	To voucher No. 103	5 00
May	13.	To voucher No. 104	50 00
June	16.	To order of President Smith to B. S. Hoxie	2 30
June	17.	To order of President Smith to V. H. Campbell	4 85
June	17.	To order of President Smith to G. J. Kellogg	71 50
June	17.	To order to J. M. Smith	80 00
July	28.	To voucher No. 105	15 30
Aug.	2.	To voucher No. 106	50 00
Sept.	4.	To voucher No. 107	32 83
Nov.	4.	To voucher No. 110	50 00
Nov.	4.	To voucher No. 111	11 77
Nov.	4.	To voucher No. 112	6 00
Nov.	18.	To voucher No. 113	13 40
Nov.	21.	To G. J. Kellogg, bill of expenses to Jacksonville, Ill	10 98

1887.				
Jan.	11.	To voucher No. 114	$21 70	
Feb.	4.	To voucher No. 115	50 00	
Feb.	4	To voucher No. 116	11 39	
Feb.	9.	To voucher No. 117	25 71	
			$795 91	
Feb.	16.	Balance in Treasury	558 20	
				$1,354 11

All of which is respectfully submitted.

M. ANDERSON,
Treasurer.

DISCUSSION.

Mr. Stickney — The thought occurs to me that as we have some funds on hand that we are not obliged to use just now, that we make some slight change in the salary of our secretary. We all know the work that has been done and will need to be done in that position, and that it has been paid for according to our means. Now that we have the ability to do a little better, I would move you that we increase our secretary's salary from $200 to $300 as a simple act of justice and appreciation of the work done in that position and that will need to be done.

A. L. Hatch — I would like to second that motion, and I was in hopes he would make it $400. I think we have a man so valuable that we can afford to pay him. I wish he would go out as a missionary.

Motion carried.

Mr. Stickney — Many of us know the sort of timber our secretary is made of, and while he is doing our work so well the farmers should have our man too. It is hard to say how much we can accomplish in that way. It seems to me we may best leave that with our executive board to decide, what to do and when to do it. I move that our executive board be instructed, so far as our secretary can, and so far as our means will allow and attending circumstances warrant, that they be authorized to provide for and direct such work to be done by our secretary as he is able to do among the local societies of horticultnre in this state.

B. S. Hoxie — I would ask Mr. Stickney to reduce that to writing.

Pres. Smith — We will call upon the committee on resolutions. They have a resolution touching upon this subject.

Geo. J. Kellogg offered the following resolutions:

Resolved, That in the death of G. J. Williams, of Janesville, this society has lost one of its most valued members, the community in which he lived a useful citizen, upright, energetic and intelligent, and his family the tender care of a whole-souled, true-hearted man.

Resolved, That we hereby tender Mrs. Williams our heartfelt sympathy in her affliction, and direct our secretary to transmit to her a copy of these resolutions.

B. F. Adams — I desire to make a few remarks. Mr. Williams was a native of Oneida county, New York. He came to Wisconsin only three years ago, and settled in Janesville, and engaged in horticultural pursuits. He soon after became a member of our society, and identified himself from the start with the work and purpose of our organization. Some of our members present, I think, will recollect the activity manifested by himself and his wife at the last summer's meeting at Janesville. They worked together, and they worked in harmony. His health became impaired only a few weeks ago, and he went for a visit to his native place, with the hope of recuperating his strength, but that foe of human hopes, consumption, took possession, and he declined, and in a little time he died in his father's house. He drooped and drooped, until the messenger came that summoned him away.

He possessed in a high degree the confidence and esteem of all who knew him in his native place, and had he lived, I know of no young man whose prospects were brighter, or whose promise was more fair to become what we call successful in all the relations of life. But he has gone from our midst, and gone forever. He approached his end quietly, "like one who wraps the drapery of his couch about him, and lies down to quiet dreams."

I recommend the passage of the resolution.

Resolution adopted.

The following resolutions, reported by George J. Kellogg, were unanimously adopted:

Resolved, That our executive committee be authorized and directed to provide for such work by our secretary in encouraging and organizing local societies, and such other work as, in their judgment, may seem best.

Resolved, That J. M. Smith be requested to act as a delegate from this society, to attend the next annual meeting of the American Horticultural Society, and A. L. Hatch to represent us at the next session of the American Pomological Society.

Resolved, That the thanks of the Society are due, and are hereby tendered to the C., M. & St. P., the C. & N. W. and the Wisconsin Central railroad companies for generous treatment, to G. W. Ringrose, of Wauwatosa, and Samuel Eales, of Waukesha, for beautiful bouquets, to the ladies and gentlemen who have favored us with music, and to the members of the Waukesha Horticultural Society for their generous and successful efforts to make this annual meeting a success.

Resolved, That the committee on legislation be, and are hereby instructed to draw up and cause to be introduced into the present legislature a bill providing that this Society shall be supplied by the state with at least 10,000 separate copies of its annual report.

Resolved, That in view of the valuable work being done in the farmers' institutes by extending and popularizing agricultural knowledge, we earnestly request the legislature to extend that work by increasing the present appropriation.

Resolved, That we believe the time has come when the state of Wisconsin should establish a separate agricultural college.

Resolved, That committee of Observations shall consist of one person from each county, instead of from districts.

Resolved, That in addition to the regular standing committees now provided for by the by-laws, the following shall be annually appointed by the president, each committee to consist of not less than three members: 1st, a committee on Experimental Station Work in Horticulture; 2nd, a committee on Revision of Recommended Fruit Tree and Shrub Lists; 3rd, a committee on New Fruits and Trials of Varieties; 4th, a committee on Horticultural Fertilizers; 5th, a committee on Legislation; 6th, a committee on Resolutions.

Resolved, That during the next year the President shall appoint such delegates to kindred societies as he shall deem proper, with the express understanding that all such delegates shall make full reports thereof.

Resolved, That $50 be allowed the President as a slight token in collecting New Orleans premiums, and to defray contingent funds for postage and stationery.

H. C. Adams — (On the matter of sending a delegate to

Boston) I move that you strike out the name of H. C. Adams and insert that of J. M. Smith.

Mr. Kellogg — We want to send Mr. Smith to California.

H. C. Adams — I think, Mr. President, that some of the older members of the society could better represent the society than I can.

There are members of this society that deserve to be sent on missions of this kind. It is a pleasant thing to attend such gatherings and have your expenses paid for you. You meet eminent men in the profession, and I want to say that I think the men who have stood by this society for years should have these honors conferred upon them. I desire to withdraw and have some other older man take my place.

B. F. Adams — If the society are going to send the president to California, I would recommend Mr. Stickney.

Mr. Phœnix — I would be in favor of breaking in our worthy secretary. He cannot be put through too soon.

Mr. Stickney — The suggestion was right at first. The meeting comes at a time when I cannot possibly leave my business. From the 1st of September to the 1st of October it is absolutely necessary for me to remain at home.

H. C. Adams — I want to say this about myself: You all know that I feel the importance of this work as secretary, and that I have not that knowledge of horticulture that a secretary ought to have. I know something of horticulture of course, but I think some man should go to Boston who knows more about pomology than I do; that is more familiar with that particular line of horticulture than I am. If Mr. Stickney declines to go I move the name of A. L. Hatch be substituted.

A. L. Hatch — I would say, Mr. President, that I should feel a good deal of diffidence in the matter, and it comes at a time when it is almost impossible for me to leave as well as for Mr. Stickney. I do not like to accept, but if it is going to be my disappointment to you I will do so.

It was decided to leave the matter of appointing a place for holding the next meeting, and also all other meetings, both summer and winter, to the executive committee.

The report of the committee on premiums was read and adopted.

REPORT OF THE COMMITTEE ON AWARDS.

Mr. President and Members of the Wisconsin Horticultural Society:

The undersigned having been designated by you to make awards upon the fruits upon exhibition at the present meeting of your society, would respectfully report that we have given them as careful an examination as the time at our disposal would permit, and awarded the premiums according to our best judgment. We desire to compliment the exhibitors upon the attractiveness and elegance of the show which far surpassed that of last year, made at Madison. We have experienced considerable difficulty in comparing the entries, owing to each individual having marked his various entries together, and would urge the adoption of a rule that separate spaces be set apart for each separate class or variety, thereby saving the committee making journeys from one part of the hall to another to find the individual entries in the classes.

RUSSIAN VARIETIES.

The award for long keepers, first premium, was placed upon Repkamalenka, a variety of medium size and very good quality; the specimens before us would doubtless keep for another month and are much better than Ben Davis, Little Romanite and Willow Twig, is of fine flavor; and specimens of the wood accompanying the exhibits show unmistakable appearances of great hardness, even greater than the Duchess of Oldenburg. The second premium was awarded to the Red Queen, which is doubtless a long keeper and valuable for cooking purposes and as good or better in flavor than the Red Romanite. The exhibit of sections of the wood of Russians and the hardiest American varieties affords an interesting object lesson for study. Thirteen of the last awards under entries Nos. 1, 4, 6, and 13 are for varieties not named in your premium list and from the best information at hand were grown in the lake belt, but they are so superior in quality and appearance and add so much to the exhibit that we have deemed them worthy the awards we have made.

We find plates to the number over 450. Among varieties not entered for competition we find one named Harvy, by Luther Witt, of good quality and appearance, a long keeper and has a favorable record wherever tried; also very fine plates of the N. W. Greening, by E. W. Daniels, — and also a splendid table of winter blooming plants bearing no entry card, hence we have made no awards upon them.

J. S. HARRIS,
WM. REID,
J. V. COTTA.

PREMIUMS AWARDED AT THE ANNUAL MEETING AT WAUKESHA, FEBRUARY 16-18, 1887.

Largest and best display of fruits of all kinds, George P. Peffer, Pewaukee	$8 00
Second, Geo. Jeffreys, Milwaukee	4 00
Third, Chas. Hirschinger, Baraboo	2 00
Largest and best display Russian apples, A. G. Tuttle, Baraboo	6 00
Largest and best display winter seedling apples. H. Gibson, Lind	6 00
Second, Geo. P. Peffer, Pewaukee	3 00
Third, Geo. Jeffreys, Milwaukee	2 00
Largest and best display crab apples, Geo. P. Peffer, Pewaukee	2 00
Second, Geo. Jeffreys, Milwaukee	1 00
Largest and best display grapes, Geo. P. Peffer, Pewaukee	3 00
Second, Geo. Jeffreys, Milwaukee	2 00
Largest and best display pears, Geo. Jeffreys, Milwaukee	2 00
Second, Geo. P. Peffer, Pewaukee	1 00
Best display showy apples not to exceed ten varieties, Geo. Jeffreys, Milwaukee	3 00
Second, Geo. P. Peffer, Pewaukee	2 00
Third, Chas. Hirschinger, Baraboo	1 00

ADAPTED VARIETIES.

Best five winter apples for Wisconsin, D. T. Pilgrim, West Granville	$4 00
Second, Geo. Jeffreys, Milwaukee	3 00
Third, Geo. P. Peffer, Pewaukee	2 00
Best three winter apples for Wisconsin, Geo. P. Peffer, Pewaukee	3 00
Second, Geo. Jeffreys, Milwaukee	2 00
Third, Wm. Springer, Fremont	1 00
Best five Fall apples for Wisconsin, Geo. P. Peffer, Pewaukee	3 00
Second, Geo. Jeffreys, Milwaukee	2 00
Third, D. S. Pilgrim, West Granville	1 00

SINGLE PLATES.

Best winter seedling apple, Wm. Springer, Fremont	$1 00
Alexander, Geo. Jeffreys, Milwaukee	1 00
Second, Geo, P. Peffer, Pewaukee	50
Fameuse, Geo. P. Peffer, Pewaukee	1 00
Second, Geo. J. Kellogg, Janesville	50
Golden Russett, Chas. Hirschinger, Baraboo	1 00
Second, Geo. Jeffreys, Milwaukee	50
Pewaukee, Geo. Jeffreys, Milwaukee	1 00
Second, Geo. P. Peffer, Pewaukee	50
Plumb's Cider, Geo. Jeffreys, Milwaukee	1 00
Second, Geo. P. Peffer, Pewaukee	50
Rawle's Janet, Geo. J. Kellogg, Janesville	1 00
Second, Chas. Hirschinger, Baraboo	50
Red Romanite, Chas. Hirschinger, Baraboo	1 00
Second, Geo. P. Peffer, Pewaukee	50
Tallman Sweet, Geo. J. Kellogg, Janesville	1 00
Second, Chas. Hirschinger, Baraboo	50
Utter, Geo. P. Peffer, Pewaukee	1 00
Second, Geo. Jeffreys, Milwaukee	50
Wealthy, Geo. P. Peffer, Pewaukee	1 00
Second, Geo. Jeffreys, Milwaukee	50
Westfield Seek-no-further, Geo. Jeffreys, Milwaukee	1 00
Second, Chas. Hirschinger, Baraboo	50
Willow Twig, Geo. J. Kellogg, Janesville	1 00
Second, Chas. Hirschinger, Baraboo	50
Wolf River, Wm. Springer, Fremont	1 00
Second, Geo. Tigot, Weyauwega	50

RUSSIAN APPLES.

Long Keepers, any variety, A. G. Tuttle, Baraboo	$2 00
Second, Geo. Jeffreys, Milwaukee	1 00
Repkamalenka, A. G. Tuttle, Baraboo	2 00
Longfield, A. G. Tuttle, Baraboo	2 00
Pabskoe, A. G. Tuttle, Baraboo	2 00

DISCRETIONARY—SINGLE PLATES.

D. T. Pilgrim, West Granville, Gloria Mundi	$1 00
Northern Spy	1 00
Ben Davis	1 00
Fall Orange	1 00
Black Detroit	1 00
Johnathan	1 00
Golden Queen	1 00
Geo. J. Kellogg, Janesville, Rhode Island Greening	1 00
Red Canada	1 00
Strawberry Apple	1 00
Newton Pippin	1 00
St. Lawrence	1 00

B. F. Adams — I move the thanks of this society be tendered this fruit committee for their services rendered. Motion carried.

Pres. Smith — If there are no more committees to report we will proceed with our programme and listen to Mr. Currie, of Milwaukee.

HOUSE PLANTS.

By Mr. CURRIE, Milwaukee.

Mr. President and Members of the State Horticultural Society: Ladies and gentlemen,—I esteem it a very great honor to be privileged to address you on this occasion. On receipt of the very kind invitation of your honorable society to read before you a paper on house plants, I naturally had some hesitation about accepting it, as I appreciate the fact that one may be a practical florist and yet have a very limited knowledge of the house culture of plants. Practical garedners, as you are undoubtedly well aware, seldom engage in that by no means unimportant branch of horticulture. Plants in the home seem to them, as they certainly are, a luxury, and few gardeners feel justified in

indulging to any extent in luxuries. However, I am happy to say I have a number of very warm friends among amateur horticulturists, with whom I have had many opportunties of exchanging ideas on the subject of gardening. I feel that by this means I have been put into possession of much valuable information, which, added to the general knowledge I have of floriculture and my own little experience with house plants, may enable me to make my paper interesting, and, I trust, of some value to you.

Although I have referred to plants as being a luxury, I do not wish to convey the impression that they are like the majority of luxuries we are apt to indulge in, which, far from being a necessity, might with profit and benefit be dispensed with, owing to their expense and deleterious effects. There is no disputing the fact, that many plants for various reasons, foreign to my present subject, could not be dispensed with, although we could undoubtedly exist without any of those we now employ for decorative purposes; but I very much fear, that the absence of even these would result disastrously. The fact is scarcely now disputed that the love, and study and culture of plants, have in no small measure, contributed to the enlightenment and refinement of nations. Some people may be inclined to view this theory with skepticism, even treat it with ridicule. I can fancy someone saying: "Isn't this love of plants more the result of this advanced state of affairs, rather than that this advancement is the result of a love of plants and their culture? Isn't it the refined disposition of the man, which induces in him a love of plants, rather than the love of plants, which refines his disposition?" To these questions I would reply by instancing the vast improvement produced on the customs and morals of the people in many of the colliery and iron-working districts of Great Britian, where within recent years plant culture has been greatly encouraged. By degrees many of these men encouraged by the annual exhibitions and competitions, have been enduced to make plant culture a hobby, instead of something else less elevating. The time and attention thus bestowed on plants by thoughtful men, was undoubtedly productive of more good than the mere oc-

cupying of spare time; but that alone was good, as it prevented these men from spending their spare time in idleness, or worse still, in the dramshop, with its attendent elemeats of debauchery and crime.

For many years the idea was prevalent that plants in the house were highly injurious to health, because, as it was said, they exhale poisonous gases, at least during the night. It is not my purpose to attempt to prove the fallacy of this theory; suffice it to say that, whereas, very little, if any, bona fide evidence has ever been produced to show that they have ever been actually injurious, much has and can be brought forward to prove that, if the ordinary plants in cultivation do any injury to even the most delicate person, that injury is so slight as to be inappreciable. A tour through the villages of Europe, where the house culture of plants has been extensively engaged in by rich and poor for many years; and, even through our own towns and villages, will furnish sufficient and very conclusive evidence that plants in the house are not only non-injurious, but, seemingly, conducive to health, if we may judge by the appearance of the people living in these houses, where, even the bed-room windows, in many instances, are darkened by the dense foliage of fuchsias, geraniums, etc. Any person who has hitherto been denying himself the pleasure of a few plants in his house because of a fear that they may possibly be deleterious to health, may at once and forever banish the thought, and proceed to gratify his desire, with perfect assurance that, as far as his plants are concerned, he may live to be the age of Methuselah.

The many benefits to be derived from the house culture of plants, may be said to be inestimable. They are to the room what its pictures are which adorn its walls. Like these they are decorative, and a source of endless study. But their study is more interesting, more educating, more refining than that of pictures, for are they not possessed of life, and do they not appeal to us for care and sustenance? We watch them with interest from day to day, and we anticipate developments. We see them put forth their leaves, their buds and blossoms. We wonder and study,

and are further lost in wonder; and, unless we are hopelessly sceptical, we cannot fail to see in their formation, their life, their growth, the directing hand of a Supreme Being. The mind may be fully occupied with this delightful study, while the eye rests on the plants, or the hand is engaged in caring for them, but no mental strain is ever experienced; on the contrary, a mind torn and racked with the troublesome, burdensome, exciting cares of every day business, may be brought to a condition of sweet repose, and be recuperated, and a mind, perhaps, for lack of occupation, almost dormant, to an extent injurious even to bodily health, may be thus wakened up, and again become quietly active, and bodily health be restored or invigorated.

Many lovers of plants are deterred from attempting their house culture, because of the idea that they are very troublesome to handle, and, that, without a greenhouse, their winter culture need not be attempted. Such, however, is not the case. I have myself grown many kinds of them, and have frequently seen them growing in the living room, in as healthy and luxuriant a condition, as I ever produced them under the most favorable conditions in the greenhouse, and that, notwithstanding the fact, that living rooms are generally heated with the ordinary coal or wood stove, or hot-air furnace, and therefore, the atmosphere is usually very dry. I do not pretend to say that all kinds of plants will succeed as well in the house as they may in the greenhouse. We have several great evils to contend with, which are seldom, if ever, present to any extent in the greenhouse. In the house, especially in winter, the atmosphere is usually excessively dry, the temperature very variable, either too high or too low, and more or less dust, be the good house-wife ever so careful, will accumulate. All of these evils, to say nothing of defective light, are productive of weakened vitality, and consequent attacks of insects and disease. But common sense and experience come to our assistance. We place our plants where they may enjoy the greatest possible amount of light and sunshine, and in a room, having a mean temperature as close to that best calculated to favor a healthy growth of our plants as circumstances will permit.

A mean temperature of 50° to 55° is considered suitable in a greenhouse containing a mixed collection of plants. Of course that is too low for comfort in our living rooms; but we should select a room, other conditions being favorable, having a temperature as close to that as possible. We, furthermore contrive to have our plants brought close to the window, there they get the greatest amount of light, and enjoy a temperature and atmosphere, cooler and moister, than that further removed from the window. That we can readily understand, when we consider that few windows are so tightly fitted, as to exclude all outside air. Just as it enters, it is ladened with considerable moisture, and, if the plants are so situated, that it may come in contact with them, before its moisture is absorbed by the dryer air of the room, they will be much benefited.

Various contrivances are in use for the accommodation of plants in the house. The ordinary wire stands are, perhaps, more generally used than anything else. They are light, strong, neat and well adapted for the purposes intended. To allow of the plants being liberally watered, as they require it, without removing them from the stand, a tin or zinc pan large enough to set the stand in, is sometimes used to catch the superfluous water. I much prefer, however, to have pans made and fitted into each shelf. They have a neat appearance, and are very convenient, as the plants stand better in them than on the wire. Besides catching the water which drains through the pots, they do not interfere with the moving of the stand on its casters at will. Ordinary wooden shelves placed across the window, and above the other, according to taste and circumstances, are often used. As a substitute for these, I have seen shelves made of wire, having an ornamental raised margin, enclosing shallow, water-tight pans. A wire at each end is bent into a hook, which hooks into an eye screwed into the window-casing, at any convenient height. These shelves are very neat and convenient, as they may be readily removed when desired for a season, the eyes being allowed to remain as they are inconspicuous. Neat revolving brack-

ets and hanging baskets are the popular contrivances for displaying hanging plants.

However well plants may be grown, much of their attractiveness depends upon how they are arranged, how potted, how trained. Much good or bad taste may be displayed in the growing of them. The same plants may produce a very striking and pleasing effect, or otherwise, according as they are arranged. The pots in which plants are growing, and even the stakes used for their support, improve or detract from their appearance. We frequently see plants, in themselves handsome, utterly ruined in appearance, by being inserted in tin cans, originally made for and occupied by preserved meats, fruits and vegetables, and by lard, etc., or in tin or wooden paint pots, meat and fish kegs, and butter tubs. These may be cheap and convenient substitutes for the ordinary flower pots, but they certainly do not in any manner enhance the beauty and attractiveness of the plants they contain, neither do they contribute specially to successful culture of plants, but, on the contrary, they rather tend to make that culture precarious, for this reason: Tin, or any metal may be, for practical purpose, consipered non-porous. Wood, espesially when saturated with oil or fatty matter, also possesses that property to a considerable extent. Now, it is a well established fact, understood by all experienced plant growers, that the more porous a pot is, the better, as a rule, will a plant succeed. The most successful cultivators contend that a pot should be capable of absorbing moisture from the soil to a considerable extent, and allow it to escape into the atmosphere by evaporation, thereby lessening the danger of plants sometimes being injured by a stagnation of an undue amount of moisture in the soil. It is, therefore, better to use flower pots made of clay — they are never expensive — and preference should be given to soft ones. The somewhat fashionable practice of painting flower pots, should seldom be resorted to; it is questionable if it ever improves their appearance.

I have made reference to the shades used in supporting plants which require it; these are usually rough and clumsy, and quite as prominent as the branches they sup-

port; whereas they should be as inconspicuous as the circumstances will permit. Light, tapering stakes, easily made from soft, straight splitting pine, and painted green of a medium tint, are the best.

There is, and always has been, a great diversity of opinion regarding the soil used in the pot culture of plants, some cultivators being as particular about the compounding of the various ingredients for their several plants, as a physician usually is in preparing a homeopathic dose for a suffering patient. There is little doubt that some plants delight in a soil, perhaps lighter, sandier and richer than that best calculated to produce the best results in others. But it is doubtful if any plant requires a soil so nicely compounded as we sometimes see recommended. Peat is a substance thought almost indispensable by old-world horticulturists, and, no doubt, is excellent for many plants, but it is difficult to procure it of good quality here, so it is seldom used, leaf-mould being substituted. When one has a good, medium light, loamy soil, some well-rotted leaf-mould, a quantity of thoroughly decomposed cow manure, and some sharp river, or clear, bank sand, he has the means of composing a soil suitable to any plant usually cultivated in our homes. A little reading, but better still, experience and observation, will soon enable any one to prepare soils suitable to any of the plants grown.

The potting of plants is a very simple process, but, yet, in this, many plant-growers, especially beginners err, in one or two particulars. Often they err in potting a plant at a time when it is very injudicious to do so. It is proper to pot newly rooted cuttings at any season of the year; but in repotting old plants, it is, as a rule, wrong to do so when they are in a condition to immediately produce flowers. The majority of plants produce their flowers more freely when their roots are pretty well confined in the pots, or, as gardners say, when they are pot bound. Plants should not be repotted just before their resting season, but immediately after it when they are preparing to put forth new roots. It is then that the new soil is of some benefit to them. Another mistake, frequently made, is the over-potting of plants. Those

of vigorous growth having heavy, succulent roots, may have at each shift, pots two or three sizes larger; but the kinds which naturally grow slowly, and have fine roots, and those perhaps, not very numerous, should be more carefully potted. Only a very little additional soil should be supplied them at each shift. A large quantity is very liable to become soured by continued watering, and the absence of roots to absorb the moisture, and keep it in circulation. A soured soil is almost certain death to the young roots immediately they enter it. As a safeguard all pots, except the very small ones, should be well drained. In those of four inches and under in diameter, one piece of broken pot or small bunch of moss laid in the bottom will be sufficient; but in larger sizes, a depth of from an inch to three inches of broken pots should be laid in, with a thin layer of moss or fiber from the soil laid over them, to prevent the fine soil from being washed down amongst them, and clogging them. Another mistake, and one frequently the cause of unsuccessful plant culture, is the potting of plants very loosely. All plants, but particularly those having fine roots, should be potted firmly. This is really important, and calls for particular attention.

Perhaps the most important operation in the house culture of plants, is the watering of them. This is frequently a great stumbling block to the inexperienced. Some are apt to give too much water, while others are too sparing with it. There is no question relating to plants so frequently put to the florist as, "How often shall I water my plants?" and no one better than the experienced plant grower knows how hard it is to reply definitely. It all depends on the kind of plant to be treated, its rapidity of growth, the manner in which it is potted, and the temperature and atmosphere it stands in. Plants in active growth require an abundance of water, the more succulent ones, and particularly aquatics, the most of course; those just starting into growth, and those about to go to rest, should be watered more sparingly; the former should get a gradual increase of the supply, the latter a gradual decrease. What I may term the golden rule in watering plants, is to water them when they actually require it, giving sufficient to thoroughly moisten the soil,

and then wait until the soil is again dry before giving another supply. It is, however, unnecessary to say that the plants should not be allowed to wilt. A very good way to determine whether a plant needs water or not, provided it is potted firmly as it should be, is to strike the side of the pot sharply with the knuckles; if it emits a ringing sound, the soil is dry and should be watered, but if the sound is without ring, no water is required. I wish to take this opportunity of protesting against a too common practice of keeping plants standing in saucers constantly full of water. Except in the case of aquatics, and a few plants seldom cultivated, the system is productive of very unsatisfactory results.

The judicious use of liquid fertilizers is attended with great benefit to many plants. Geraniums, fuchsias, chrysauthemuces and even ferns and many others when growing vigorously, and in need of much nourishment, of which they have already exhausted the soil, are very grateful for an occasional watering of guano or ammonia. Both are excellent, although guano is generally preferred. It should never be applied to a plant when the soil is very dry, as there is then danger of its loosening the roots. It is always advisable to use a weak solution of it ; one pound to twenty gallons of water is generally recommended, although some cultivators use it at the rate of two ounces to the gallon, and even stronger. A weekly application is usually sufficient, unless the plant shows signs of great exhaustion, when it may be applied twice each week. Its effects are greatly increased vigor of growth, depth of color and richness in leaves and blossom, the latter being generally greatly increased in numbers and size. Ammonia is also highly reccmmended by many experienced plant growers, both for watering and syringing. It is usually used in strength int he proportion of one tablespoonful of the liquid to one gallon of water, and applied to the roots once or twice each week, orlightly syringed on the foilage three or four times during the week. For the latter purpose I believe it is very beneficial to house plants.

The diseases which plants are heir to, and the numerous

enemies which infest them, and render their health and existence precarious, are matters of much concern to floriculturists. The diseases are numerous, and the remedies very uncertain. The insect enemies which usually attack house plants at least, are, fortunately, not so numerous, and although destructive, may be successfully coped with. But they must have prompt attention. To parley with them is only giving them an opportunity to become masters of the situation, and, that accomplished, they will never call a halt until the plants are totally destroyed or worthless. Here is where the old maxim, "prevention is better than cure," is paricularly applicable. Many remedies are recommended, each one said to be better than another; but any one of them is good enongh, if only applied promptly and perseveringly.

It seems to be the general opinion that only a few kinds of plants are well adapted for house culture; for we seldom find any but the most common thus employed. That is not to be wondered at, seeing there are so many plants which certainly do not succeed well in the house, and few people care to experiment extensively; so they generally use such plants as, from experience or observation, they are assured will do well in their living rooms. As the house culture of plants. is comparatively speaking, in its infancy, in this western country at least, and as one cultivator after another begins, by growing only such plants as he finds his neighbors growing, and those the most common, such as geraniums, fuchsias begonias, etc., it takes some time before a knowledge of the adaptability of the less common kinds becomes general. The number of kinds well adapted for house culture is by no means so very limited. Many choice plants which, until recently, were considered unfitted for the purpose, have been found, after making careful experiments, quite well suited, many of them bearing the rather trying treatment with impunity. Even amongst ferns, which are plants specially fond of a moist atmosphere, there are several genera which succeed admirably, even in hot, very dry rooms. They are, of course, very grateful for a daily showering of water. My practice is to remove them,

along with my other plants, to the kitchen sink once or twice each week, and give them a throrough doucing, which, removes all dust, and thoroughly cleanses and refreshes the foliage. Every other day they get a light showering from a fine rubber sprinkler, where they stand in the sitting room. That is easily done without wetting the carpet much, if a little care is exercised. Such ferns as Ptersserrutata and Pteris longifolium, Asplensium lueliferum, Polystichium angulare, Adiantum capillus-veneris, and HePhrolepis exaltata, give great satisfaction. These, along with many of the palm family and numerous other ornamental foliaged plants, have the additional merit of being adapted for the decoration of rooms, where no sunshine ever enters. Aspidistra lurida variegata, a plant having long lance-shaped leaves beautifully striped with white and green, will do well in a room where no sunshine, and but little light ever enters.

The following palms are also useful for such situations, or they may be placed with equally good results in any aspect: Latansa borbonica, a noble looking plant having large fan-shaped leaves; Chamacrops hum hamilis, excelsa and fortumi; Phœnix dactylifera. This latter is the palm which supplies the dates of commerce; it is a very beautiful plant; Seaforthia elegans is especially worthy of mention. Many more equally good might be named. These plants, of course, are only valued for their ornamental foliage. Some people have a decided preference for the so-called flowering plants, which are, beyond question, very desirable, although generally rather more difficult to manage than the majority of ornamental leaved plants. But that need not deter any one having à suitable room, with a window having an east, south or west aspect, from attempting their culture. The very best results may be obtained, if suitable plants are cultivated, and care in their management is exercised. The following plants seldom fail to give satisfaction: Albutilous, achimines, amasyllis, alyssum, begonias, including all the new bulbous sorts, many of them being perfectly gorgeous. Fuchsias, geraniums, gloxinias, hilbiscus, Japan lilies, mignonette, oxalis, vallota, purpurea; these usually flower in

summer, and will keep the house gay with flowers all through that season. It is, however, during winter that flowers in the house are most valued. The following plants are especially adapted for that season: Albutilous, alyssum, astelbe, japonica, ayaleas, several begonias, callas, camellias, carnations, chrysanthemums, cyclamens, cypripedium insigno or moccasin flower, dentyia gracilis, eupatoriums, geraniums, lilium candidum, mignonette, primulas, if kept cool, and violets also under the same conditions, but the latter are seldom successfully grown in the living room. Epipbryllum truncatum, one of the cacti, having flowers of a dazzling scarlet, is also a favorite; in fact, there are many species of that family which are interesting and excellent house plants, and deserve more popularity.

The various Holland bulbous plants, including hyacinths, tulips, harcissus, etc., are particularly serviceable ; they are so easily managed, and furnish for a long time a succession of bloom. I omit roses as they seldom do well in the house, except for a brief period. In addition to these plants, and also in addition to the ferns, palms, etc., already named, the following plants having ornamental foilage are worthy of culture, particularly whe there is a deficiency of light or at least sunshine: Acalypha musiaca, agaves, aloes, cannas creotons, cycas revoluta, cyperus alternifolius, or umbrella plant; dracænas austealis, congesta, dracs and indivisa, ficus elacticus, or India rubber tree; phormitum tenax, pandanus utilis, strelotyia, regina, which also produces handsome, unique blossoms. Peperomia masculosa, saxifraga sarmentosa, or Aaron's beard, and the several varieties of tradescanta or Wandering Jew. These latter are excellent for hanging baskets. Many more plants might be mentioned, including the old favorites, the Oleanders and English ivy, all of them excellent, but I have already occupied too much time.

I have omitted to specify any special treatment required by some of the plants named, as that would occupy too much time, and, besides, there are so many periodicals now published, and at such low rates, that any and all interested in plant culture can subscribe for at least one of them. Some

of them are exclusively devoted to horticultural topics, while others include among the miscellaneous subjects they treat upon, many interesting and valuable articles and hints on horticulture. From these papers one can glean a very good knowledge of plants and their culture, and special information desired by subscribers can readily be obtained by writing to the always willing editors. I will close by briefly expressing the hope that the thousands of our plant-loving population who already devote much attention to the house culture of plants, may ere long be increased to tens of thousands.

DISCUSSION.

Mrs. Campbell — I should like to ask if charcoal is considered good for plants?

Mr. Currie — It is excellent drainage for plants.

Mrs. Campbell — Would recommend it instead of what you did recommend? I have used it for several years, and I think for drainage it is better than anything else.

Mr. Currie — It is decidedly better.

Pres. Smith — If there is nothing further upon this, we will call upon our friend Stickney. Mr. Stickney always talks sensibly. Old age does not seem to wear him out.

J. S. Stickney — I certainly thank the president for that introduction. I never should have thought of it in that way.

I do not like to make apologies, and will make none. I failed to hear Prof. Cook yesterday forenoon, being unavoidably absent. He gave you something very much better than I can give you, of course.

INSECT PESTS.

The request for this paper brought with it these conditions: A fifteen-minutes' talk in good, plain "United States," not a word of Latin, the director evidently forgetting how hard it would be for me to omit the Latin, only thinking

how easy it would be to expose the wickedness of some thousands of little sinners in fifteen minutes.

Over 200 enemies subsist upon our fruits. Here, as among humans, there are degrees of wickedness, and the first place must be given to the codling moth, for no orchard escapes him, and he destroys a thousand fold more than he consumes.

The comparative few that live over winter deposit their eggs in the apple blossoms, or in the calyx of the little apples as soon as formed. This brood mature in about six weeks, and to these our efforts for destruction should be directed, for every one that escapes will, in two or three weeks more, be ready to deposit in the growing fruit from 40 to 60 eggs.

This second brood are the ones that come down in our windfalls in August and September, or are carried into the cellar with our winter fruit, and spin themselves snug little homes under the hoops of our apple barrels, or in the cracks of our apple boxes, to come forth in spring a delicate, innocent-looking little moth, ready to do her part in the great concerns of life.

On leaving the fruit in autumn, they hide in all sorts of places. The large family Bible lying on our center table became the home of one in the crease of its binding on the side next the table, the worm leaving the apple dish on the same table and finding that hiding place. He evidently thought it a secure retreat; perhaps he went on the supposition that we had a smaller and more convenient volume for daily use.

A careful scraping of all loose, rough bark from the apple trees, removal and burning of all rubbish from the ground beneath, and examination or burning of barrels in which apples have been stored, will destroy very many of the early crop; then to catch the first brood of worms as they leave the fruit. The best means known is to place bands of cloth or paper around the body of the tree, holding them in place by two or three tacks. Nearly all the worms leave the apple while still on the tree, and crawl downward in search of a hiding place. If the loose bark has been re-

moved, as it should be, these bands are the most available place for them to to hide.

They should be examined every six or ten days and all worms destroyed. Do this thoroughly from June 15th to August 15th, and you will have but few wind falls.

In my experience the next place belongs to the apple curculio or gouger, though fortunately his work is not so widespread and general, his mission being especially to punish the shiftless, negligent cultivator who allows quantities of worthless trash in shape of seedling apples, crab apples, wild crabs and plums, morello and bird cherries, etc., to cumber his ground in hedge-rows, fence-corners and neglected places, all bearing their fruits, too poor to sell or use and not convenient for the pigs to gather, therefore allowed to become a perfect nursery and breeding ground for the gouger.

I have in this way succeeded in raising perhaps the finest army of these busy little workers in the state, and they now relieve me from all care or labor of fruit gathering in an orchard of five hundred trees which bloom and sets annually fruit enough for 1,000 to 1,500 bushels.

They never strike or go on a spree, or get inattentive to business. Who can say it is not a success? An unfortunate point in this combination is that the trees are all Duchess of Oldenburg, which always bears a crop, thus precluding the possibility of starving them. There remains but two ways of working a change. All the fruit could be hand-picked and destroyed as soon as formed, this would cost lots of labor, which would doubtless be fully paid by the following season's crop. A June frost hard enough to destroy the last apple would be a quicker way, requiring us to be on the good side of the clerk of the weather, and bringing us into disfavor with everybody else, either would *starve* the bugs, which seems to me the only remedy.

Full cousin to these are the plum curculios, quite as persistent and destructive and much more generally disseminated, more sluggish in habits and from the limited amount of plums cultivated more readily destroyed by jarring them from the trees onto white cloths and killing them. Another

favorite safeguard is to plant the trees in enclosures where pigs and chickens are kept.

The canker worm where prevalent is terribly destructive but persistent, earnest effort will control them. Syringing the foliage with a solution of arsenic or London purple is a quick and decisive remedy, but should be used with great care.

Broad bands of paper or cloth closely fitting the trees, covered with some sticky substance like tar or printer's ink, or collars about the tree in form of a trough, filled with oil are preventives based upon the fact that the female is wingless, maturing in the ground and crawling up the tree to deposit her eggs.

There are two species, similar in appearance and habits, differing in season, one ascending the tree late in fall, the other in early spring, thus making the troughs or bands necessary from October to May.

Of borers there are two species, the round headed and flat headed, differing little in their work, the former requiring three years to complete its growth, the latter maturing in one season.

They are most destructive to newly planted trees, or to such older trees, as owing to unthrifty condition or natural habit, have a feeble and rather limited flow of sap. Notably the locust, which but for the borers would be a valuable timber tree for posts, ties, etc., its wood being almost as enduring as red cedar.

These borers are easily destroyed in their early stages by carefully examining the south and southwest sides of newly planted trees. The castings, or dark brown spots on the bark will betray them and they must be cut out or their holes opened and probed with a flexible wire to kill them.

The perfect insect of the round head is a pretty little beetle three-quarters of an inch long, light brown, with a creamy white stripe the whole length of each wing, nocturnal in habit. The other is smaller, very active, a dark metallic color and prefers the warm sunshine.

An excellent preventive is to protect all newly planted trees with straw or any other material that will shade, tied

on the south and southwest sides of the trunk from the ground to the branches. No borer will deposit her eggs in the shade, and this shading if well done not only blocks her little game, but promotes the flow of sap, thus saving many a feeble tree and helping the gowth of all.

Of currant worms we have two, both of the saw-fly family. One a native, a light green little fellow half an inch long, always hungry, and not content with what one generation can do sends out a later brood to gather in what tender leaves may have grown after the work of the first brood.

The other is a foreigner, and was first noticed about thirty years ago, but is now wide-spread and more destructive than the native. He is larger, darker in color and distinctly marked with black dots. Soon after the leaves are formed their small white eggs are laid singly in rows along the leaf ribs. These hatch very soon, and the little worms, almost too small to be seen, eat round holes through the leaf. These holes are the first hint you will have of their presence and *just then* is the time to "go for them" look for these indications in the central parts of your bushes, very rarely at the top or outside.

Paris green or Loudon purple will do the work, but is too dangerous. Powdered white hellebore is the best medicine. It can be applied with water, but I have always done best work with the dry powder, using a one-pound baking powder can with cover punctured with fine holes, and sifting the hellebore on in large or small quantities as needed. A very little does the work, and slight practice will enable one to apply without much waste.

Some dilute with flour or plaster, but from those, I think, come most complaints of failure.

Three things are important: Keep the powder from your nostrils and lungs; apply early, before the worms have done much damage watch carefully for the few that are missed in the first application.

The remaining fruit depredators are not in large numbers — are only slightly harmful, or are easily destroyed, so we leave them.

Beautiful and interesting as they are, the whole family of butterflies, moths and millers, are enemies and pests. The family is large, five thousand species being known, and nearly one thousand having their homes with us. All subsist on vegetation. In early spring the cut worms attend promply and thoroughly to the newly planted grain, lint caterpillar, canker worm, army worm, and hundreds of others are ready for all foliage almost as soon as it bursts from the buds, and the season closes with the big fat worms found here and there, late in autumn making special efforts to consume all that is left. One species in all this family is useful — the silk worm, these are found by careful observation to consume during their lives, over eight thousand times their primitive weight; this gives some idea of the food consumed by all. Could it all be weighed and measured how would it compare with that consumed by our flocks and herds?

To combat these would be simply impossible were it not for the helps which nature gives. Many parasites are doing their work.

Birds are our great helpers, and we accomplish something by poisonous applications, judicious change of crops, plowing at seasonable times, etc.

About our dwellings or crops especially subject to injury, something is accomplished by lamps set in broad pans with an inch or two of water and a little oil on its surface; burn these from early twilight till daybreak and you will be astonished at what is caught. Many species are nocturnal and can thus be greatly diminished.

Favorite hiding places for many are lumber piles, or under rubbish laying about promiscuously, therefore the more tidy things are kept the fewer and further away will be these neighbors.

By all means encourage and protect the birds; whatever sins they commit in fruit stealing, we may be sure that without them we would have no fruit to gather, for the worms would destroy it all.

Among some eight thousand species of beetles or bugs we have both enemies and friends. Enemies that spoil our

potatoes — unless full fed with Paris green — ruin our squash and melon vines, bore damaging holes in our timber, and do many other aggressive and provoking things. Friends only as they do good work in the destruction of other insects, and perhaps in doing a little friendly scavinger work.

On the whole I think more friends than enemies for the destruction which they bring to the butterfly and moth family is very great.

Best among the friends are the so-called "lady birds," diminitive little fellows — shaped about like the half of a small pea, usually red or yellow with black dots, they do excellent service in the destruction of aphis or green lice.

From the family of bees, wasps and ants we cannot spare the bees, but might be induced to spare the wasps and ants, yet they are not altogether bad, the ants doing good scavenger work and the wasps are to some extent fly destroyers.

Of the grasshopper family there are some 5,000 species, and their pasturage is a large item, but falls with blighting effect only at long intervals and on limited areas.

They are only useful to us as food for poultry. To the Digger Indian they count for more.

We have only about 10,000 species of flies, but among them is the mosquito, who in music and activity compensates for any lack of numbers, and who with a few barrels of rain water, or stagnant pools near the house will soon multiply himself by a million, and be constantly at your service. Here is another paying opportunity to tidy up, if a barrel contains water cover it, if there is a stagnant pool drain it.

You have all noticed how much more troublesome mosquitoes are in the woods than in the open, this applied to your dwellings would lead to planting all low shrubs with dense foliage, somewhat away from the house and to so arrange all surroundings as to give a free circulation of air.

Flies in the kitchen are scavengers, but pests also; better to do the scavenger work ourselves than to tolerate their presence. Construct a drain which shall convey all slop to a distance, fit the same with a covered hopper and see that all slop leans through that channel. Send the conveient

swill pail to the hog pen twenty rods or more away; cover all dishes of food, and the swarm of hungry flies will seek more prosperous fields.

Flies in the barn are not only pests to us but doubly to our animals.

Remove daily all droppings and litter and you will soon wonder at results.

Screens and curtains at windows and doors of stable will make it a place of rest instead of torment.

With the flies come the spiders, not enemies but friends — not very loveable canny friends yet great helpers in the destruction of many insect pests.

In this rambling talk there certainly is no Latin, but I hope there may be found sense and point enough to emphasize the two little words "tidy up."

Prof. McGinnis, of Minnesota, was introduced, and responded in a graceful speech.

Pres. Smith — We will now listen to Mr. Kellogg.

NEW VARIETIES OF SMALL FRUITS.

BY GEO. J. KELLOGG, JANESVILLE, WIS.

Mr. President:—Your secretary has assigned me the above topic. I will try and not weary you while recounting the *wonders* of creation.

Of currants, nothing so marked in improvement as "Fay's Prolific"— as large as cherry and five times as prolific — the other wonder is, that after five years the price of plants still remains so high, from 25c to 50c at retail.

GOOSEBERRIES.

"Downing American Cluster" and "Smith's Imported," are leading other varieties.

"Industry," being of foreign birth, will probably succumb to mildew.

RASPBERRIES.

"Rancocas" is not sustaining its promises.

"Springfield" indicates the Old Davidson Thornless revamped.

"Nemaha," almost identical with Gregg, yet more hardy, and will prove profitable.

"Hilborn," from Canada, of *best quality* of any of the blackcaps, of nearly the size of the Gregg, and has come to stay; $1.50 per doz.

"My Seedling," I am inclined to believe, from the past season's fruiting, is of more value than I have attached to it, having stood the winter and drouth, and paid best of any variety.

"Earhart," introduced by Hale Bros., 1886; while Lovett says he is "fearful it will prove to be the Old Ohio Everbearing." The introducers claim, of "600 spring-set plants, nearly all fruited, and high as 380 berries on a single plant," and others report as high as "200 berries on a single cane," spring-planted; and one reports "12 qts. of berries, in August and September, from 19 plants set in spring." This would indicate raspberries all summer.

"Golden Queen" claims for quality almost equal to Brinkle's Orange, larger than Cuthbert, hardy, prolific and sells in market often at double the price of red raspberries, and succeeds from Florida to Minnesota; only $2.00 per doz.

"Excelsior Red," only $1.00 per plant, promising to yield five times as much as any variety, and fruiting till snow flies, with a full show of fruit in fall. This is a Wisconsin pet, and Mr. Sneclode "has been offered $1,000.00 for the plants in stock."

BLACKBERRIES.

"Ancient Briton" is known to be a success in Wisconsin; but one little item I picked up this winter worthy of note: A grower from Berlin reports from one-half acre in 1885, 8,000 quarts, one grocer paying him over $500.00 for this berry alone, from this half acre.

"Wilson, Jr." claims to be the earliest very productive

berry on the market; $1.00 per doz., yet "Early Harvest" is contending for this same prize.

"Topsy" is only to be had by "subscription for South's Orchard and Garden," and he claims to have refused to sell at $5.00 a plant; this is claimed very choice and productive.

"Lucretia Dewberry," $1.00 per doz., is doubtless the earliest most productive trailing blackberry on the market; the only trouble is to be sure you get the true "Lucretia" from reliable dealers; this is as easily covered as strawberries, and exceedingly productive.

"Erie," first called Uncle Tom, only $5.00 per doz., with the modest claim of exceeding Snyder in hardiness, Wilson, Jr., in earliness, Lawton in size, and Kittatinny in quality; enormous crops for seven years, when no mulch, no manure and no pruning.

GRAPES.

While so many new varieties are being continually brought out it is difficult to choose one until you have failed with twenty. There has been a great fever on white varieties and one prominent and reliable firm offers only thirty-six white kinds in their last catalogue.

From present indications I should put them in the following order for adaption and success:

"Victoria" (by T. B. Miner), best white, "not a fault in vine or fruit; healthy, hardy, big production, good to eat, best in quality—a seedling of Concord," now offered at $1.00 each.

"Empire State" (Rickett's) "seedling of Hartford and Clinton, as early as Moore's early and Hartford, white, free from mildew, big production, bunches six to ten inches, keeps as well a catawba, everything good about it except, one grower says, no earlier than Concord;" 78 cents each.

"Moore's Diamond" (by I. Moore, father of Brighton), "seedling of Concord and Iona, greenish, yellowish white, two weeks earlier than Concord, big, *healthy* production, hardy," it is now offered at $1 50 each.

"Francis B. Hayes," "from the same lot of seedlings as Moore's early white, big, hardy, healthy, large," 50 cents each.

"Niagara," white, most productive of all, "one vine four years old gave 140 clusters, from eight to sixteen ounces each," in good grape regions it will pay for market, although not of high quality. Its only fault is in some localities its inclination to mildew, vines 75 cents to $1.00 each. These five white varieties will suffice and I will name but one red which is very promising.

"Woodruff Red," large, handsome, good, healthy and hardy, $1.00 each, a seedling of Concord" and I have faith in Concord blood, without the health of the Concord leaf, we plant to our sorrow.

STRAWBERRIES.

I will not go through the list of one thousand kinds now cultivated, but will only touch the following:

"May King" indicates a profitable, big productive healthy mate to Crescent, more firm and larger.

"Parry," "large, good, healthy, beautiful and productive" and an excellent mate for "Jewell (R)," which is claimed is "as large as Sharpley, and productive as Crescent, having given one quart to a plant, set in the fall, very robust and healthy, not inclined to run."

"Belmont," "of highest quality, the finest berry in the Boston market, firm, vigorous and productive," $1.00 per dozen.

"Garretson (P)," claimed to be "better every way than champion" (Windsor Chief or Wonderful).

"Lida (P)," "seedling of crimson cluster introduced at $1.00 each by Parry." The only fault I find with it, it is one of Durand's seedlings, and but few of them have ever obtained success — "this is claimed twice the size and as productive as Crescent with added firmness;" $2.00 per doz.

"Gaudy's Prize," latest of all, firm, large as Sharpless, vigorous and productive; $2.00 per doz.

"Cohanzick," "seedling of Triumph de Gand and promises to beat everything."

"Monmouth," "50 per cent. every way better than Crescent in size, productiveness, earliness, firmness, with same color of fruit and health foliage;" $2.50 per doz.

"Mammouth," "the largest of 100 kinds on exhibition, berries weighing 1¼ oz.;" $2.00 per doz.

"Crimson Cluster" (King Cluster), "most valuable ever raised by Durand;" $2.50 per doz.

"The Summit" (Crawford's No. 6), the heaviest ten berries ever exhibited, of good form, taking the prize of $10.00, fruit as large as The Early Louise Peach (P), firm, good flavor, ripens all over at once — vigorous and strong grower, and thoroughly tested in many parts of the United States and Canada; $2.00 per doz.

"Bubach No. 5, (P)." early, productive as Crescent, large as Sharpless — vigorous and healthy but too soft for shipping — sent out at $5.00 per doz.

"Grand Pacific." This is coming on the market next season and expects to eclipse all forerunners; by D. J. Piper.

"Warfield No. 2, (P)." No wonder there is war with so many rivals, but this is the berry to ship from Southern Illinois to Minneapolis; dealers there testifiy that it stands better than any other variety; more productive than Crescent side by side, same treatment one row Crescent 20 rods gave 193½ qts., and Warfield same length 331 qts., very early, vigorous, and will climb a fence as fast as Crescent, good size, color and flavor. To be introduced by J. Webster & Son, Centralia, Ill., and only sold in lots of 1,000 plants. And now we come down to "Jessie," queen of all strawberries.

I hardly need to mention the good points of this variety to any who were in attendance at the June meeting at Janesville; it captured the convention to a man and every woman but one. The show upon the tables of the Jessie were magnificent; the bushels eaten by the crowd who wandered at will over the acres of Jessie upon the grounds of F. W. Loudon were testimonials of its wonderful size, beauty, firmness, vigor and heathiness of plant, quality of fruit, and producing such a wonderful show of fruit on the varied soils during the unprecedented drouth led to the adoption of the resolutions on record. Having watched the Jessie for the past three years led me to make the effort to get the June meeting at Janesville last season.

By request of the Secretary of the Minnesota State Horticultural Society I wrote up an account of the Jessie which was by some *doubted* and our worthy president was called on to testify, and here is the report as found in *The Farmer*, St. Paul, January 27, 1887.

"J. F. Grimes, treasurer, made his annual report: Total receipts, $1,263.98; disbursements, $1,336.91. A paper on the Jessie strawberry, by Geo. J. Kellogg, Janesville, Wis., was read by the secretary. After the reading of the paper, doubts were expressed as to its reliability, and Mr. J. M. Smith, of Green Bay, Wis., was called upon for further information. He said he was one of the committee of the State Horticultural Society of Wisconsin to visit the place where the berries are growing. They showed up as the finest berry he had ever seen. He could have picked bushels that would average four inches in diameter, but did not know how they would do away from their home which was near Janesville, Wis.

DISCUSSION.

Mr. Adams here spoke of a request which had been made to have a cut of the Jessie strawberry inserted in the next volume of transaction, and asked for an expression of opinion from the members of the society.

Mr. Hoxie thought it would be a good idea if all producers would furnish plates.

Pres. Smith said, in speaking of a strawberry of which he had given a report at the Minnesota Horticultural meeting, that it was the largest berry he had ever seen; that one berry was brought him which measured nearly nine inches in circumference; that six of them would fill an ordinary box, and that seven berries would make it heaping full. Three berries would make one layer in an ordinary quart box.

Mr. Plumb stated that a year ago last fall he fitted some ground with extra care for some Manchester and Wilsons, and the day he was getting ready to set, he received a letter from Mr. Loudon, together with 12 plants, asking him to

test them. They were the same variety as spoken of by Mr. Smith, the Jessie. Mr. Plumb said that he put the plants in the ground prepared for the Manchesters and Wilsons, leaving a space of some four or five feet between the varieties. By fall the Jesse had made a fair growth, and were well cared for for the winter. In the spring, when they were uncovered, two of the plants were dead, and two more died before the time for blooming. The remaining eight plants bore some fruit that was very large and fine, and by fall two of the plants had formed thrifty stools, but the other six plants were indifferent. The Manchesters all around them had made a nice growth, and so had the Wilsons. He thought, upon the average, they had made four times the amount of growth the Jessie had.

The following paper, prepared by Chas. H. Hamilton, of Ripon, was now presented:

HANDLING AND MARKETING OUR FRUIT.

BY C. H. HAMILTON, RIPON, WIS.

Mr. President, Ladies and Gentlemen:— I think our worthy secretary was somewhat in error when he allotted this subject to me. This is a subject of the greatest importance to all fruit growers. While I well know I am not the person to tell definitely the *best* mode to handle our fruit crop that we may be able to get our fruits to market so they will carry and sustain their many inviting and pleasing aspects as they do when hanging in large and delicious clusters as placed upon our plants by the apt hand of nature. I will only attempt to give a *brief* outline of what may be considered some of the most essential points. In this day of advanced horticultural education, and in line with the advancement that horticulture has made, we will take it for granted that every fruit grower is cultivating kinds and varieties which are fully up to the standard of *excellence* which has been obtained in our collections of strawberries, raspberries and blackberries, and that as a professional or amateur fruit grower he has entered upon

the undertaking with a will and strong determination that it is a noble and interesting pursuit, worthy of all the push and attention we are able to give it. Believing that to grow or handle the fruit successfully on a large scale it needs to have the undivided attention of the proprietor, not only in the early part of the season when the vitality and vigor of the growth are among the necessary essentials for the thorough development of the fruit, strict attention is necessary from the early spring till autumn, and no one can afford to neglect this branch of the business who have adopted it as their line of business, and in the line of fruit culture, we may truly say, who loves his work and improves his time may shrewdly jerk in many a dime.

We do not feel inclined to write anything *on* an imaginary way to handle or market our fruit. Our aim is to have it practical not theoretical, and you will pardon me if I give you my mode of procedure, not that I consider my mode perfect. I think there is something in a system. We will take it for granted that we have not overlooked the sure signs of the approaching harvest which is near at hand, and have made our arrangements for handling the crop by having our boxes and cases procured and made up ready; our carriers also ready, and our picking all ready in order, our pickers engaged; and here comes a class who are very *essentially* co-partners with the proprietor in the care of, and picking the fruit. *An* average picker is not one who wish to mingle or to be too intimately associated with, yet I claim that when they come to your place in the morning ready to go to work at your bidding when you meet them have a good word for them. A good morning said to them will cause a good feeling to prevail between you and your help. Though this may seem as a very little matter yet in the interest and care which they take in the picking and care of your fruit you will see the effects of kindness, and by thus doing you can impress upon the average *Young* America that after they have begun picking that playing and mischief are to be dispensed with. Each of my pickers is supplied with a hand-carrier holding six boxes, also a tin box — which is attached by a string or strap around their

waist and into this tin box one of the fruit boxes will go in, the lid covering and protecting the fruit, and both hands are at liberty to gather the fruit which can be done much faster than holding the box in their hands, besides keeping the boxes clean. After the pickers have all supplied themselves with this outfit they will proceed to the patch of raspberries or blackberries. They are in charge of a man who allots them their place, one on each side of the row, and they at once proceed to work, the man who has them in charge will be supplied with empty carriers to replace those that are filled by each picker and in return for each carrier filled containing the six boxes the man hands them a ticket with the figure six, also my name, and that ticket is kept by the picker as my receipt for the same, and the man carries the fruit at once to the fruit house, where by other hands it is placed in cases. You will see the propriety of my having this man ready to take the fruit as soon as the case is full. It saves the pickers the trouble of leaving their rows and thereby getting behind, and in their anxiety to keep with the others they are apt to skim over the row and not pick clean. This man also keeps order and sees that the picking is done with suitable care. Our fruits are all packed in cases containing sixteen boxes, which I consider the most handy size for general use and for shipping. The box I use is the Hallock, a box well adapted for fruit, being broad and not deep, thereby saving the liability of becoming *crushed* by too much depth of box; each case a tight fitting *cover,* giving the case a *neat* appearance, and a little good taste bestowed upon the appearance of a package often adds to the price received, and thus it comes the that brand of certain growers are sought after in market. I think in our markets that the size, quality and appearance of the berries count far more than all other considerations combined.

In summing up, it may be briefly stated that with all fruits and in all the large markets, beauty, size and good keeping qualities are points which are chiefly considered. Very few know much about the name of varieties, but eagerly purchase that which appears the most attractive.

The grower who can make his crates of berries, when opened, look better than others will always receive good prices. If he tops off poor fruit with large berries, he will scarcely find a market eventually. If he always takes pains to make his packages appear attractive, his fruit will soon be in much demand and spoken for in advance. I have thought that a cool place to bring your fruit, where the temperature would not reach too low a degree of cold, free from a current of wind, would be a great help to keep our fruits in a better condition.

After due care has been exercised in the picking and packing of them in the best manner, we are now under the necessity of meeting *one great* and important *subject:* The problem of how we can get our express company to more fully realize that the fruit we grow is not calculated to stand *all* the smashing and ill usage which our fruits are subjected to by their agents, who, as a general rule, are, in their own estimation, of *such* a great importance that they can't be approached with any degree of assurance that we shall receive a civil answer. We hope the day may not be far distant when, by the co-operation of the many fruit growers throughout the state, we may be able to impress upon these great monopolies that it is our due that we are granted every protection possible in the handling of our fruits; and, also, lower rates. The market is amply large enough for all our fruits, if our express companies would not ask such exhorbitant rates, which are higher from my own place to Green Bay than from Chicago to Green Bay. One of the chief problems for our fraternity to solve, is how to distribute our products more perfectly and economically to reach wider markets. There is as yet no absolute overproduction of good fruits. There are many disagreeable things to contend with, even after all the care which we have bestowed upon our fruits. Our markets are, and always will be, *opened* for choice fruits. Let us raise them.

On motion of Mr. Periam, Prof. McGinnis and Mr. Greenman were elected honory members of the society.

Convention adjourned *sine die.*

REPORTS OF COMMITTEES ON OBSERVATION.

FIRST DISTRICT—G. P. PEFFER, PEWAUKEE.

Counties — Kenosha, Ozaukee, Racine, Milwaukee, Washington, Sheboygan.

Conditions of Temperature, etc.

In this vicinity we had no rain from the 14th of May until first week in September to wet the dust more than one-half inch at a time, although there were nice showers north and south of us, in the third week, (or about the 20th) of June. They were local, however, and extended only for a few miles. Their course was mainly from the south southwest to east, or more on a curve south of us, and those that came from the same course curved to northeast so we did not get a drop here on the 20th of June, but on the southeast of Oconomowoc Lake very heavy hail fell, so much that a large share of all the glass on grape and green houses was broken, corn cut to pieces and fruit on the tree cut up, strawberries spoiled and grapes too. The hail did not all thaw on the north side of buildings and board fences for twenty-four hours. It only ranged about three-quarters of a mile wide, but extended over twenty miles in length. Thermometer ranged several times 96° and 98° in the shade during the summer, but it being so very dry no mildew on the grape, nor sun-scald, or fireblight on any of the fruit trees appeared. The greatest damage was done on account of the drouth, by the aphis on the plum and fruit trees, and the red spider on succulent plants, roses, etc., etc.

Varieties Fruited.

In apples there were more than one hundred varieties fruited in the seven counties. In fact, most all varieties that are grown in Michigan, Ohio, Pennsylvania, New York and all other eastern states. The collection exhibited at the New Orleans show was largely gathered from those counties, and, in fact, out of the 262 varieties from Wisconsin 179, including some thirty varieties of cross-bred crabs

were mostly of my own raising, but the winter of 1884-85 reduced those numbers to some extent with me, but near the lake shore no trees had died by bark loosening or cold weather, or the effects of 1885.

Grapes — Concord, Worden, Moore's Early, Delaware, Brighton, Elvora Eumatin, Vengenas, Janesville, Florence, half dozen Roger's Hibrids, Dutchess, Prentiss, Niagara, Lady, Lady Washington, Martha and others all did well.

Pears — Some twenty varieties near the lake shore, and some as far west as Oconomowoc. Flemish Beauty, White Doyenna, Sheldon and some dozen natural varieties are grown in the west counties.

Plums — Most all the European varieties near the lake, say from one to six miles west of it, with us the native or American varieties did the best, although I saw some fourteen varieties grown in Waukesha and Washington counties of the European kind.

Cherries — Early Richmond and Kentish did best. I had seen a few trees said to be sweet cherries, but no fruit. The buds were killed in winter.

Small Fruit a short crop where it did not rain in June, but a good crop in the lake counties.

Soils, Sites and Resources.

In the Five Lake Counties it is mostly heavy clay soils except Kenosha, which has in some parts a yellowish sand, but fruit trees did not suffer as much there as they did in Waukesha and Washington counties. We are having more of a drift formation and the land more rolling; most orchard sides that were facing south or southwest were killed outright, while others facing north and northeast nearly all came through last year in good shape.

Fruit Lists.

Apples — Early Varieties — Tetofsky, Yellow Harvest, Yellow Transparent, Sops of Wine or Early Washington, Red Astrachian, Red June, Early Rose, Summer Pennock, Red Quin, Sour Bough, Dutchess Oldenburg, Fall Granderry, St. Lawrence, Early Red, Alexander, Fall Pippin, Fall

Orange, Fall Quin or Haas, Fall Stripe, Fall Wine Sap, Fall Strawberry, Fall Greening, Fall Spitzenburg, Fall Harvey, Fall Felix, Fall Fulton Beauty, Fameuse, Ben Davis, Bailey Sweet, Black Detroit, Blue Pearmain, Baldwin, Benoni, Belmont, Allen Russett, Sweet Wine, Clark's Orange, Colvert, Cayuga Red Streak, Cable Gillflower, Gray Gillflower, Cooper, Chenago Strawberry, Drap de or, Dominei, Cuswick, Codlin, Early Jr., Esopus, Spitzenburg, English Golden Russet, Everlasting Greening, Gray Vandevere, Gloria Mundi, Golden Russet, Golden Sweet, Grimes' Golden, Green Sweet, Gravenstein, Hawley, Herfordshire Pearmain, Gray Winter Pearmain, Haskel Sweet, Jersey Sweet, Jonathan, N. Spy, Lowell, Lady Apple, Lyman's Red Sweet, Lyman's Yellow, Limber Twig, Pumpkin Sweet, Maiden's Blush, Minkler, Mother, Minister, Green Newtown, Pippin, Ortley, Perry Russet, Pormt Sweet, Pormia Gris, Plumb's Cider, Pewaukee, Paradise, Winter Sweet, Pheonix, Pryor's Sweet, Roxbury Russet, Rambo, Walbridge, R. I. Greening, Canada Red, Rome Beauty, Rawlis Jennet, Red Romenite, Yellow Bellflower, W. Seek No Further, Stark, Utter, Wm's Favorite, Willowtory, Western Beauty, Talman Sweet, Gray, Green Sweet, Sweet Russet, Sweet Bough, Red Gilliflower, Swaar, Wealthy, and lots of crab apples.

Fruit Crops, Acreage, Markets, Prices, etc.

Apples, early varieties	$1 50	to	$2 00	per bbl.
Apples, fall	1 00	to	2 00	per bbl.
Apples, winter	2 00	to	4 75	per bbl.
Pears, fall	2 00	to	4 00	per bu.
Pears, winter	3 00	to	5 00	per bu.
Plums	1 50	to	3 00	per bu.
Cherries	75	to	1 50	per bu.
Currants, fair crop, late	75	to	3 00	per bu.
Gooseberries, fair crop	1 50	to	2 00	per bu.
Grapes, Concord	03	to	05	per lb.
Grapes, Delawares	05	to	10	per lb.
Grapes, Rodgers' Brighton	06	to	10	per lb.
Raspberries, red, fair crop			12	per qt.
Raspberries, black (not so good)			13	per qt.
Strawberries, average crop			11 qt.	net.

Owing to the dry summer, much of the fruit was below average size, but averaged in prices and amount of yield per acre to former seasons, as there was more of it.

Pears—Varieties: Flemish Beauty, White Doyenem,

Bartlett, Seckel, Louisa B. de Jersey, Buffum, Annanesdi Eta, Clapp's Favorite, Shelden, Winter Nellis, Doar, etc.

Plums — Green and Imperial Gage, Washington, Jefferson, Duan's Purple, Lombert, Yellow Egg, and others, also of American sorts, De Soto, Forest Garden, Miner, Wild Goose, Winnebago, Early August, etc.

Grapes — Florence, Moore's Early, Worden, Delaware, Brighton, Concord, and Rog. No. 3, 4, 9, 15, 19, 22, or Salem.

Horticultural Exhibitions, etc.

There has not been an agricultural meeting in this district in 1886, not until very lately. There was a Horticultural Society organized, and only a few meetings held prior to the State Horticultural Society meetings here.

This society is called the Waukesha County Horticultural Society.

Diseases, Insects, etc.

Aphis on all fruit trees multiplied, and so did the red spider, all summer, on account of no rain to speak of, and came very near ruining all last summer's growth, and on European plums the leaves dropped in August and they started to grow again with the fall rains, and blossomed, but I think they are now dead, as they were in full growth when winter set in. Fungi, or rust on some varieties of apples and pears, damaged the trees and fruit to some extent, as the summer was so dry, the damage was done only early in the season.

Vegetable Gardening.

This was made profitable to those gardeners that had a good supply of water, and irrigated.

Flower Culture, Tree and Ornamental Planting.

This was also successful where water was plenty, and along the lake shore where the drought did not have the effect as inland, because they had more dew and the influence of the lake kept it cool.

Trees and ornamental planting was cut short, as the spring was so short and those that planted trees at the usual

time found they had started too much, and about 9-10 of all late planted trees perished, even some that were mulched and sometimes watered.

SECOND DISTRICT—N. N. PALMER, BRODHEAD.

Counties—Green, Dane, Jefferson, Rock.

Conditions of Temperature, etc.

The last year has been comparatively exempt from the violent storms and extreme cold weather that we sometimes have. The early spring of '86 was very wet, causing springs to break out on ground that had been worked for twenty years, and had always been dry. The wet spring was followed by the most severe drouth I ever knew in this district. B. F. Adams writes me, that at Madison it covered eighty-five days. While the drouth was general there were some local showers that somewhat relieved its severity. The temperature was generally high, causing the premature ripening of all fruit, diminishing the size, and reducing the crop, in many places fully one-half. I will estimate that strawberries were reduced one-half, raspberries two-thirds, and blackberries were a total failure; apples were a light crop; ripened early and did not keep well; grapes were a good crop.

Mr. Geo. J. Kellogg has kindly consented to write up the weather record for me. His report will be found elsewhere.

Varieties Fruited.

Apples — Summer apples, Tranparent, Saps of Wine, Tetofsky, Red Astrachan; Autumn, Duchess, St. Lawrence, Fall Orange, Wealthy, Fameuse, Utters, Winter, Golden Russet, Willow Twig, Talman Sweet, Roman Stem, Seek No Further, Walbridge, Pewaukee, Crabs, Whitney No. 20, Brice's Sweet, Frankeendon and Hyslop.

Raspberries — Gregg, Mammouth Chesters, Doolittle, Gouhegan, Ohio, Cuthbert, Philadelphia, Crimson Beauty, Beauty, Hansell, Brandywine, Shaffer's Colossal.

Blackberries — Snyder, Stone's Hardy, Ancient Briton.

Strawberries — Wilson, Green's Prolific, Crescent, Crescent City, Bidwell, Piper's Seedling, Captain Jack, Prouty, Jas. Vick, Charles Dawning, Jumbo, Mr. Loudon's Jessie and I suppose many others that I don't have the names of.

Grapes — Warden, Concord, Delaware, Janesville, Hartford, Prolific, Northern, Muscadine.

Soils, Sites and Resources.

I can't give a very definite description of the soil, but will class the soil of this district as high lime-stone, sandy loam and drift. I consider the high sand-stone soils the best for fruit, and the drift next. In reference to orchard sites, I will mention I have always thought until recently that an east or northeast slope was best. I have an orchard set on lime-stone soil (the stone crops out in places), and an east slope. Mr. Alcott, a neighbor, has an orchard set on similar ground. His is a west slope. His orchard, especially Golden Russet, bear much heavier crops nearly every year. I think his advantage comes from his protection from east winds, when his trees are in bloom.

Fruit Lists.

Apples — Summer: Transparent, Tetofsky, Saps of Wine. (Red Astrachan is fairly hardy, but is a shy bearer, and the last two years has been worthless with me, owing to apple gougers, causing the fruit to be small and deformed).

Autumn Apples — Duchess, St. Lawrence, Fall Orange and Haas.

Early Winter — Wealthy, Fameuse, Utters.

Late Winter — Golden Russet, Roman Star, Willow Twig, Seek-no-further, Wallbridge, Pewaukee.

I have great hopes that some of the New Russians will take the place in the near future of some of the above list.

Pears and plums — I have no list to recommend.

Cherries — Early Richman, Kentish, and D. L. Young, of Monroe, adds English Morello.

Blackberries — Ancient Briton, Snyder and Stone's Hardy.

Raspberries — Black: Gregg, Ohio. Red: Sheffer's Collossal and Cuthbert.

Strawberries — Old varieties: Crescent, Wilson, Chas. Dawing, and D. E. Young speaks very highly of the Jumbo, but from what I saw in Mr. Loudon's grounds the two last summers, I think the Jessie ought to be at the head.

Grapes — Worden, Concord and Delaware.

Fruit Crops.

I can't give the number of acres of fruit raised in the district. B. F. Adams writes me there were about twenty-five acres of strawberries about Madison last year. I will estimate there were fifteen acres grown within eight miles of Brodhead. Prices for strawberries have run from five to fifteen cents per quart. Raspberries ten to fifteen cents.

D. S. Young writes me he sold English Morello at 12½ cents per quart box. Early in the fall there was but little sale for apples at any price. At gathering time I sold Fameuse at $2.35 per bbl. Grapes sold from 4 to 8 cents per pound.

Horticultural Exhibitions.

There was a splendid exhibit of strawberries at Janesville in June, and Mr. Adams writes me there was a fine exhibit of fruit at Madison last fall, largely from Baraboo, however.

Owing to sickness in my family I did not attend any of the fall fairs and have no reports of the fall exhibits.

Fruit Growers, etc.

Geo. J. Kellogg, nurseryman and fruit grower.

F. W. Loudon, small fruit.

Postoffice address of above, Janesville, Wis.

J. C. Plumb & Son, Milton.

Coe & Converse, small fruit growers and dealers, Fort Atkinson, Wis.

B. F. Adams & Co., Madison.

D. W. H. Taylor, small fruit grower and gardener.

Wm. Alcott, fruit grower.

J. T. Sherman, amateur fruit grower and gardener.

N. N. Palmer, fruit grower.

Postoffice address of above, Brodhead, Wis.

D. S. Young, fruit grower.
Jacob Jones, gardener and fruit grower.
Postoffice address, Monroe, Wis.

Diseases, Insects, etc.

Fruit has been very free from diseases the last year. The apple gauger and plum curculios were out in full force, damaging the apple crop very much and destroying some varieties entirely among the Red Astrachan.

Two years ago my orchard was badly infested by the leaf roller. I decided to try Paris green on them, so started two men out with two wagon loads of water, force pump, pails and a supply of Paris green, and they went over some 600 bearing apple trees in half a day. After a few days I looked the orchard over. I was afraid we had not done much good, as there were worms left on the trees, they were so well protected in their nests. Then I concluded to turn my hogs in and see what they would do for them, believing they go into the ground to stay till another spring. Between the hogs and Paris green the rollers were very much reduced. Several years ago I cleared my orchard of canker worms with Paris green. I believe it is one of the best remedies for codling moth we have.

Vegetable Gardening.

There is but little vegetable gardening done in this district, probably not more grown than are required in the district; in fact, we shall have to import a large quantity of potatoes this year.

Flower Culture, Tree and Ornamental Planting.

Flower culture in this district is confined almost entirely to amateurs. Tree and ornamental planting has not been very extensive as yet, still there is a growing interest in that direction.

Methods of Culture, Training and Management Worthy of Note.

On this head I will quote D. S. Young's method of growing strawberries. He says: "I keep the cultivators going;

keep them clean as possible during the growing season; set a new bed every spring, and turn under an old one. The first season we cultivate and hoe among the plants, being careful not to destroy the runners, keeping the bed clean until about the middle of August. After this there is nothing more done on the bed except to pick three crops of berries; then it is turned under again. The weeds that grow after the middle of August will not ripen seed before the frost kills it, and this growth of weeds forms a good covering for the plants, and makes an excellent winter protection. The first season's picking I get the largest berries, the second season the most quarts, the third and last season about as many quarts as the first season, but smaller berries." I will say Mr. Young is the largest small fruit grower in Green county.

New, or Specially Valuable Sorts, and Their Tests With Regard to Hardiness and Adaptation.

I have not much to say on this subject. Perhaps I ought to mention the Roman Stem apple. All the trees of this variety that have been set in this county that I know anything about (except a few I grafted and sold to parties near Albany a few years since, and I have heard nothing of them since), were brought from Ohio in 1850, and set in a few of our old orchards. A part of my trees were injured some two years ago. One of my neighbors set a small orchard in 1850. There were six Roman Stem trees among them. The orchard is now all dead except the six Roman Stem; five of them are still healthy, one was injured two years ago.

I must not fail to mention the Jessie strawberry. That, as I saw it on Mr. Loudon's grounds the two last seasons, growing along side of all the most popular strawberries, stands at the head of all strawberries yet introduced for size, quality, productiveness and healthy, vigorous foliage.

ASSISTANT'S REPORT ON OBSERVATION FOR SECOND DISTRICT FOR 1886.

BY GEO. J. KELLOGG, JANESVILLE.

By request of N. N. Palmer, Esq., I give the following report:

First Climatic—The winter of 1885 and 1886 set in December 5th, '85, and during the month the thermometer was at zero and below seven days — December 7th being 13 below, the coldest for December. Teams crossed the Mississippi at Dubuque, December 17th, on the ice; from December 21st to January 4th there were but two cloudless days, three days heavy rains, frost all out and teams plowing — winter again January 5th. The coldest day in January, 1886, January 23d, 28° below, while at Minneapolis it was 36° below the 22d. There were four days the thermometer did not rise to zero during the month, 10th, 11th, 22d, 23d; during the month there were thirteen days at zero and below — forty-five inches of snow fell during the month, with no very heavy winds. February opened cold, 2d, 3d, and 4th, the thermometer did not rise to zero, and the third it was 28° below the coldest for February; six days below during the month — quite a thaw from the 8th to the 15th, with rain the 10th, 11th and 12th. During the month twenty inches of snow; high winds prevailed from the 22d, and the worst storm for the month was the 27th and 28th.

March 2d at zero, the coldest for the month, the first week very pleasant, second week snow nearly every day — the 17th robins, geese and bluebirds made their appearance — and frogs the last of the month. From the 28th to the 31st the heaviest fall of snow of snow for the winter, but it came so soft the inches could not be given, probably thirty inches during the month.

April 2d, 2° below zero, April 3d, 3° below; did not get at spring work until the 9th; the 15th brown thrushes put in their appearance — ice May 7th, frost 16th and 25th; apple blossoms commenced falling May 9th; heavy rains during April and continuing till May 18th, then till August 16th three months the worst drouth for many years.

For May the thermometer ranged from 50° to 81° at noon.

For June the thermometer ranged from 70 to 90°, hottest, June 14th, 70 to 90°.

For June, twenty-one days 80 to 90° at noon with very light showers.

For July, twenty-nine days 80 to 98° at noon, the hottest July 25th, being 73 to 97° the 28th being 62 to 98° — July 9th cool, 59 to 65° with fine local showers.

August, twenty-four days from 80 to 94° at noon, hottest, August 21, 67 to 94°; fine showers the 4th and 5th with general rains the 16th to the 21st; August 21st, very high winds blowing off nearly half the light crop of apples.

September, thirteen days 80 to 90°; the 11th, 12th, 15th, and 30th, very destructive winds; light frosts the 14th and 17th, and severe one the 29th, but the grape crop had been secured.

The severe winter of 1885–6, 29 days, giving a total of 274° below zero, killing many of our already injured trees, the freeze of May 7th, while the apples were in full bloom, the three months drouth, the terrible winds, the excessive heat, the ravages of the codling moth, and the destruction by the apple gouger and curculios, give increasing evidence that apple production in Wisconsin is an up hill business.

Occasionally there have been small orchards on high ground, clay ridges, that have borne all that was possible even after the loss by winds, but the crops in this district have been very light, apples selling in the fall at 40 to 60 cents per bushel, and in winter at $3 to $4 per barrel.

The drouth checked the growth, and when the August rains and heat came many trees started into second growth and even apple blossoms were not uncommon in September, leaving our trees in poor condition to withstand a severe winter.

The only full crop of fruit the past season was grapes, which sold at 4 to 6 cents per pound, about three-fourths of which were Concord, Bal-Warden, Delaware and Janesville, with a few other varieties. Most of the Rogers have been discarded, and but an occasional man is found with sand enough to plant many of the new varieties.

Small fruits were about one-half crop — the June convention, at Janesville, brought out a splendid show of about thirty of the old varieties of strawberries and fifty varieties of seedling strawberries by F. W. Loudon, principally of which was "Jessie," which took first prize for size and quality, competing with Sharpless. Miner's Atlantic, Mrs. Garfield and others. Raspberries and blackberries also give but one-half crop, and where blackberries were not protected there was no need of marketing the fruit — all prices ruled low notwithstanding the loss by drouth.

The excessive heat of autumn matured apples early, and in our district there are but very few apples that can be shown. In correspondence with B. B. Olds, in January, he stated that he could only make a show of five varieties, and neither of them are on our recommended lists. I have already taken more than the space allotted me in this report; I will not mention the other twelve subdivisions, either of which might fill a volume.

SUPPLEMENTARY.

Mr. Secretary:— While on a visit in Kenosha county, at Dr. Jas. O'Zarne's, five miles west of the lake shore, I found quite a collection of tender apple trees that, many of them, have been growing since 1854. One Rhode Island Greening I measured at the branches, four feet from the ground, and its girth was five feet and two inches, spread of top thirty-five feet, and in fair, healthy condition, full of blossoms, buds and promises for twenty years to come. Next to this, a King of Tompkins County, girth four feet. The wind had split down one branch, but the winters are mild enough so that it is in comparative health. I found also nice samples of fruit that were exhibited at Waukesha from this orchard, of Rhode Island Greening, Eropus Spitzenberg, Domine, Jonathan, Green Sweet, Northern Spy, Yellow Belleflower, Strawberry, etc. This fruit, Dist. No. 1, was the great help to our New Orleans show, and shows the great variety of climate we have, and that in some degree, we should encourage the exhibition of these choice old

varieties from these favored counties along the lake shore, though we should not recommend anything outside the *belt of its adaptation.* We should encourage the bringing out of such varieties as are still living and bearing choice fruit; and if our committee of observation would report the *best paying kinds* in their *counties,* and the *soil* and *surroundings,* it will enhance our report and be far better guides to beginners than our *continued remodeled lists,* which can never be applied to our state at large.

GEO. J. KELLOGG,
Self-Appointed Committee of Observation at Large.

THIRD DISTRICT—H. ROBBINS, PLATTVILLE, WIS.

Counties — Grant, Iowa, La Fayette.

Conditions of Temperature, etc.

The season of 1886 is one that the fruit growers of the third district will not be very likely to forget soon, on account of the marked absence of all storms during the fruit season. From about the 1st of May until after the berry season was over, there was not enough rain at any one time to more than wet the foilage through, and with dry hot winds prevailing part of the time, it has been the most trying summer on fruit of all kinds that we have ever known.

Where strawberries were well mulched they bore a very fair crop, but all other small fruit suffered more or less, and some patches not properly cultivated did not pay for the picking.

We had several late frosts that did considerable damage to early fruit blossoms.

Varieties Fruited.

The growers of this district have not experimented much with the newer fruits the past year.

In apples we have fruited the Duchess, Talman Sweet, Fameuse, Golden Russet, Alexander and Tetofski.

Crab Apples — Transcendent, Hyslop.

Strawberries — Crescent, Chas. Dawning, Bidwell, Glendale, Longfellow, Sharpless, Windsor Chief, Manchester, Cumberland, Triumph, Wilson and James Vick.

Grapes — Concord and Clinton.

Red Baspberries — Cuthbert, Turner and Thwack.

Black Raspberries — Gregg and Doolittle.

Blackberries — Ancient Briton, Snyder, Stone's Hardy, Taylor's Prolific and Kititinny.

Soils, Sites and Resources.

The third district has plenty of soil that is well adapted to the growing of small fruit whether for home use or for market. Sandy soil is not very plentiful but we have the rich black prairie soil and the different clay soils. In looking over the fruit statistics for 1885 I see that small fruit growing in this district is yet in its infancy, as we are credited with only 32 acres for the district, and fully one-third of that is located at Platteville. All kinds of fruit that can be given winter protection will do well in this district.

Fruit Lists.

Apples — Duchess, Talman Sweet, Fameuse, Golden Russet, Alexander, Tetofski.

Crab Apples — Transcendent, Hyslop.

Strawberries — Crescent, Chas. Dawning, Glendale, Winsor Chief, Bidwell. So far the Wilson has not succeeded in this district.

Grapes — Concord.

Black Raspberries — Gregg.

Red Raspberries — Cuthbert, Turner.

Blackberries — Ancient Briton, Taylor's Prolific, Snyder, Stone's Hardy. With winter protection.

Pears, plums, cherries, currants and gooseberries have received so little attention in this district that I cannot recommend any varieties.

Fruit Crop, etc.

The winter of '84 and '85 killed all but the very hardiest of our apple trees. Apple growing does not seem to be very

profitable in this district and but very few are setting out new trees.

Apple trees that stood the winter of '84 and '85 bore an abundant crop the past year.

The strawberry crop was about up to the average.

Grapes bore an abundance of well ripened fruit.

Other berry crops were light.

The acreage has been increased about eight acres the past year.

The demand for fruit during the season was good, both at home and at distant markets.

We are brought by rail within a day's travel from St. Paul to Chicago.

Strawberry prices ranged from 17½ to 8c per qt.

Raspberries from 12½ to 8⅓c per qt.

Blackberries from 12½ to 10c per qt.

Grapes from 5 to 2½c per lb.

Horticultural Exhibitions.

There are no Horticultural Societies within the district.

Fruit Growers.

Growers of fruit for marketing purposes are not very numerous in this district.

There are seven different growers at Platteville, one at Georgetown, one at Cassville and one at Lancaster, Grant county, and one at Darlington, Lafayette county.

There is one man engaged in the nursery business.

There are no seedsmen and but few gardeners.

Diseases, Insects, etc.

We have been troubled somewhat with the strawberry and blackberry rust the past season.

The currant worm has settled the currant business for us and the larvæ of the May beetle has injured our strawberries to some extent. So far this district has not been troubled with any disease or insects to such an extent as to seriously injure our fruit crops with the exception of the currant worm.

Vegetable Gardening.

Vegetable gardening is carried on to quite an extent by some. Vegetables of all kinds do well in the district.

FIFTH DISTRICT—WM. TOOLE, NORTH FREEDOM.

Counties—Sauk, Juneau, Adams:

Conditions of Temperature.

Late spring frosts caused a light crop of apples, excepting Siberians and on trees in elevated situations.

Apple trees received no particular injury from the effects of cold or weather changes during the winters of 1885 and 1886.

Strawberries and all of the small fruits came through the winter in splendid order, but suffered badly from excessive heat and dryness of the past summer.

Apple and other large fruit trees did not recover so much from past injuries as they would have done through a more favorable growing season. Wood was well ripened and in good order to stand the present winter. At this date, Feb. 9th, small fruit shrubbery is in good condition, and strawberries are so well protected with snow that they are probably all right.

All varieties ripened early this year, so that the late varieties of apples which usually carry well into winter, were gone early in December.

Varieties Fruited.

The New Russian varieties of which I have any knowledge fruited heavily, as also did the following kinds on elevated situations, particularly with northern exposure: Tetofsky, Duchess, Fall Orange, St. Lawrence, Red Astrachan, Fameuse, Utters, Willow Twig and Walbridge. Talman's Sweet bore considerable numbers of poor fruit, and Golden Russet bore a smaller quantity of still poorer fruit. With the exception of St. Lawrence, Red Astrachan and Walbridge, the variety of trees mentioned are in good condition on the best locations.

Soils, Sites and Resources.

Our best location for apples, judging by the numbers of surviving trees that are to be found on top of bluffs or elevated plateaus which are above depressions in the ranges where air currents draw through or settle north, northwest or northeast slopes have been favorable. A good wheat clay soil not always calcareous seems to be the best.

Of soils suitable for the varieties mentioned under the head of No. 4, there are many favorable sites in this township and through the county.

Fruit Lists.

Your observer does not feel competent to offer a list for general use, but would not hesitate for his own use on the score of hardiness, to plant the following varieties in addition to a few Siberian, Tetofski, Alexander, Dutchess, Fall Orange, Drap Dor, Golden Russet, poor bearer, Utters, Willow Twig, Fameuse, Talman Sweet, Hass, Wealthy, Wolf River, Orange, Orange Winter.

The best of the foregoing I shall plant in addition to the new Russians.

There was a great shortage of yield of small fruits, because of dry, hot weather, yet prices did not rule high; for most kinds Gregg is the best blackcap raspberry, although a little tender. Gouhegan or Tyler are good for early. Doolittle is good, a little hardier than Gregg, and has not deteriorated in this locality. Cuthbert and Marlbro stood first among the reds, Branywine's are tedious to pick. Plant some Schaffer's Collosal for your own use. They are hardy, prolific, tart, juicy and sprightly.

Crescent is the leading strawberry with some variety to fertilize, for which Cumberland Triumph is generally recommended. William and Charles Dawning are now completely out of favor.

Fruit Crops.

The Sharpless brought best prices in this market, yielding fine berries after the glut of market had passed.

From my own observations Ancient Briton is not much

superior to Stone's Hardy blackberry as I expected to find it. One would do well in planting both varieties.

Blackberry prices ranged from 6 to 12½ cents per quart, averaging 8 cents for early kinds and 10 to 12 cents for Gregg's. Red varieties are sought for but not much offered at prices about the same as for black.

Strawberries ranged in price from 6 to 15 cents per quart, averaging about 8 cents.

Blackberries 15 cents, with a good demand.

Currants not much in the market.

Of early to late fall varieties of apples there was a heavy yield in favorable localities and sold at prices ranging from 50 cents per two bushel bagful of windfalls in the orchard to 75 cents for picked winter varieties. Duchess, which has brought in more money than any other one variety one year with another, brought about $1.50 per barrel delivered to shippers.

Horticultural Exhibitions.

The only display of horticultural products in this county (Sauk) has been at the autumn fairs held at Weedsbury and Baraboo. At the former place the show of vegetables was good; cut flowers fair and fruit meagre. At the latter there was a profuse showing of apples and grapes and cut flowers, with fair showing of flower plants and vegetables.

Our Sauk County Horticultural Society has been indefinitely suspended through neglect of its officers to call meetings of the society, although the interest of the society was well sustained during its active existence. I don't know what has become of the Freedom Horticultural Society. Excelsior Farmers' Club and Horticultural Society holds regular meetings, but neglects to report.

Diseases, Insects, etc.

Rust troubles the strawberry plants, but the young growth was so feeble from dry weather that there was not much for the fingers to work on.

Mildew troubles many plants, but people rarely apply any

remedy. Grapes were very free from mildew or other diseases.

Apples were very free from blight but better; rot in the center of fruit developed late in the season.

There was the usual number of wormy apples.

White cricket still weakens the canes of raspberries.

Currants are but little grown, because people will not learn the value of white hellebore.

Rose culture is much neglected, because there is some trouble in getting rid of the slug.

Red spider caused more general injury than all other insects combined, although most persons supposed the effects of their presence was the direct result of dry weather.

Hemlocks, spruces and, perhaps other evergreens, suffered from an insect of the same class, but I think not red spider. Some trees were killed, and perhaps many.

Vegetable Gardening.

Farmers generally raise more weeds than vegetables, and among market gardeners there is more competition in numbers of growers than quality of products.

Flower Culture, etc.

In the towns people incline more to pot culture of flowers, with some exceptions.

Farmers generally cannot spare room and time for flowers, or raise too much poultry. Generally too much poultry.

The attention which farmers, as a class, give to ornamental horticulture is, in a great measure, controlled by their prosperity. When times are hard, less attention is given to outside home decoration.

The beauty to which some of the best evergreens through the country have attained, shows that the planting of this class of trees has been too much neglected. Now, that good size has been reached, and where there are spacious surroundings, our native evergreens, the white and so-called Norway pines, are superior to others for beauty. Our native hemlock would be entitled to first place if it were not for its slow growth.

Methods of Culture, etc.

Under this heading, to do justice to the subject, would require a full paper and more time than your correspondent can now spare.

SIXTH DISTRICT — A. D. BARNES, FOND DU LAC.

Counties. — Columbia, Dodge, Fond du Lac, Green Lake, Marquette.

Conditions of Temperature.

First — From very high to very low.

Second — No bad storms.

Varieties Fruited.

Of the variety of apples most successfully fruited, Duchess, Wealthy, Haas, Walbridge, Snow and Talman Sweets. There are not many N. W. Greenings nor Wolf Run trees in bearing size in this district, but what are doing well.

Of the crabs, Whitneys, Orion, Transcendant, Hyslop, Hewitt, Winter and Gen. Grant.

Cherries — Early and Late Richmond.

Very few plums fruited here, in fact none worthy of mention.

All early variety of grapes did fairly well.

But few currants were fruited owing to the ravages of the worm, but those using salt brine have had fair crops of Red Cherry, Dutch, Red Dutch and Long Bunched Holland.

Blackberries — Ancient Briton and Stone's Hardy; mostly Ancient Briton.

Raspberries — Turner, Antwerp, Cuthbert, Gouhegan and Greggs.

Strawberries — Wilsons, Crescent, Sharpless, Manchester, Capt. Jack, James Vick, etc.

Pears — None.

Soils, Sites and Resources.

We have all kinds of soils, from red clay to *clear sand*, including chalklet clay loam and dark sandy loam.

For apples I consider high chalklet clay loam with N. E. descent the very best site for an orchard.

For small fruits of all kinds except blackberries any well drained corn land has been successfully cultivated.

Blackberries have succeeded best on dark sandy loam, but can be raised successfully on heavy clay loam if carefully treated when laying down for winter.

Fruit Lists.

Apples — Tetofski, Duchess, Haas, Wealthy, Snow, Walbridge, Talman Sweets, Golden Russet and Wolf River.

Crabs — Transcendant, Hyslop, Orion, Brier's Sweet, Hewitt's Winter and Gen. Grant.

Cherries — Early and Late Richmond.

Currants — Red Dutch, White Grape and Long Bunched Holland.

Grapes — Worden's Concord and Moore's Early.

Blackberries — Ancient Briton and Stone's Hardy.

Raspberries — Turner, Cuthbert and Gregg.

Strawberries — So many varieties nearly alike 'tis hard to make a selection; would choose Wilson's Albany, Crescent and Manchester.

The Lucretia and Mammoth dewberry have both proved successful here.

Would advise planting dwarf Juneberry and dwarf pears for trial.

Fruit Crops.

Fruit crops fair considering the drouth and the negligence on the part of the farmers to care for and cultivate trees and shrubs.

Acreage, impossible to get at the exact amount, but would say that the acreage is now on the increase, and planters begin to show better disposition towards cultivating and care of fruits.

Markets are mostly at home within the district although a few heavy buyers ship in the fall to the northern markets.

Some blackberries being marketed in Chicago and Milwaukee.

Apples range from 40 to 75 cts per bushel.

Blackberries averaged about 10 cts per quart to the raiser.

Strawberries and red raspberries about 7 cts; and black raspberries about 9 cts per quart.

Currants and cherries sell readily at $2.50 per bushel.

Horticultural Exhibitions.

Horticultural exhibitions were made at the county fairs. A very fine exhibition was made at the Fond du Lac county fair.

An Horticultural Society was organized at New Casse, Fond du Lac county, last March, but died out after it's third meeting.

There is yet in existence a society at Markesan that is doing good.

Fruit Growers.

The most prominent fruit growers are C. H. Hamilton, Woodruff & Son, Ripon.

Hewitt & Barnes, Goff & Lane, Waupon.

Dr. Holmes, Marquette.

Israel Chester, H. H. Matterson, Campbell's Port.

R. Kinnement, Oatfield.

Mrs. M. S. Hiner, Mrs. V. Wallace, Fond du Lac.

Nurserymen are C. Perry, Beaver Dam.

John Hewitt, Hewitt & Barnes, Minke & Goff, Waupon.

Diseases, Insects, etc.

Fire blight, *sun-scald*, black harts and *June grass*.

Apple gouger, bark louse, currant worms and curculios abound.

Vegetable Gardening.

Some very fine vegetable gardens at Fond du Lac, Ripon, Oakfield, Waupon, Beaver Dam and Juneau.

But the farmers' gardens are neglected most by far of any worthy enterprise that I know of.

Methods of Culture.

Best method of cultivating apple and cherry orchard — Incline trees to south of west. Cultivate in garden or root crops two seasons; seed to clover in second fall.

Mulch heavily around trees as soon as plowed. Remove muching first week in September, to allow trees to ripen the wood.

Return mulching as soon as the ground freezes, four to six inches in the fore part of the winter, to hold frost in the ground to prevent the sap from coming up early in the spring, and to hold the blossom buds back. Loosen up the earth with spading fork early in May, working this mulching into the earth, and replace with more dark-colored litter. Cut first crop of clover early, and let the second crop grow to seed and rot down on the land, to keep all seeded and act as a fertilizer; also to prevent drouth and sudden thawing and freezing.

Pick off at least one-half of the smallest and most inferior fruit as soon as set.

EIGHTH DISTRICT — WM. SPRINGER, FREMONT.

Counties — Waushara, Winnebago, Waupaca, Outagamie.

In making this report I will have to confine myself mostly to Waupaca county, as I have not been able to gather the information desired from Outagamie and Winnebago counties.

In this county we find many orchards once good entirely gone, and many will not set again, but I think more trees were set last spring than have been for many years.

We find no orchard of any size without a good sprinkling of Seedlings, Duchess, and Tetofski on our low level lands.

On all slopes we find many of the old standard kinds bearing such as the Walbridge, Russets, Snow, Fall Orange, Utters, Willow Twig, Plumb's Cider, Pewaukee, Haas and that class of hardiness, but only on the very high land, the higher the better.

I will give Mr. J. M. Jenny's report of his orchard which is situated on top of the hill at Weyauwega. He says: "In the year 1874 I had about 425 trees alive. I now find 180 trees. I sold this year of apples, from:

		bu.
35	Duchess	14
10	Snow	33
17	Crabs	45
6	Red Utter	12
25	Haas	100
5	Fall Orange	12
5	Wolf River, two of which are just beginning to bear	½
	Seedlings	10
3	Totofski	2

In the last mentioned tree there is no profit. In all I sold not including what we used for cider, 355 bushels. I have given up trying to raise winter apples except the Wolf River. I raised apples the last year of the following varieties: Talman Sweet, Bailey Sweet, Ben Davis, G. Russet, P. Russet, Washington, Westfield and Seek-no-Further, but the trees are nearly dead. The Haas and Duchess are the trees for me."

I do not know of an orchard in this district on higher ground, or an orchard raising all these varieties.

A. S. Bennett, of Royalton, reports having sold something over 500 bushels of apples, about one-half of them seedlings. He has the best or one of the best orchards in this county. He has many nice seedlings. He has chestnut trees fourteen inches in diameter. The trees appear healthy and bear quite a quantity of nuts. His orchard is on high ground, sloping to the southeast and quite stony.

The once splendid orchard of Wm. Wilson, of Weyauwega, is nearly dead. He says there is nothing winter to tie to but the Wolf River.

On the same hill E. Wrightman has an orchard on the south slope. He has thirty-five bearing seedlings, from which he sold fifteen bushels. He has Duchess, Wealthy and Wolf River in bearing and hardy. Mr. A. V. Balch, on the same hill, northwest exposure, has 113 seedlings in bearing, from which he gathered 180 bushels. He has 50 grafted apple trees, just a few commencing to bear. He has about ten varieties of grapes, yielding him 250 pounds of grapes.

There are several more orchards on this hill, where varieties are raised that are raised nowhere else in the county.

In the town of Lind we find several orchards, mostly of seedlings. H. Gibson and Mr. Hebblewhite have each a

hundred or more seedling apple trees. Many others have a smaller number. Of these seedlings, there are many deserving of propagation; some of which you will have on exhibition, the trees of which are, to all appearances, perfectly hardy. These latter are not on hills, but on quite level ground.

Mr. A. Smith has quite a seedling orchard and some very nice apples. Has a lot from seed of Duchess, all as hardy as the Duchess in appearance, and some quite good keepers. We have a great many seedlings of the Duchess in this county, and not a poor one. All fair size and better keepers; but one of which is very early.

In the northeastern part of Waushara County are several nice seedling orchards. I have not been able to go further to observe.

E. W. Daniels reports his Northwestern Greening, Wolf River, Duchess and Pewaukee doing well. He speaks of only these that he is raising that are good trees. He has Snow, Walbridge, Wealthy, Utter, Red, and too many crabs.

There is not half enough small fruit raised to supply the demand. Some are going into it and are making more money from an acre planted to small fruit than from the farm.

O. A. Rich is doing quite a little business in that line, but the drouth hurt him badly this year.

In the western part of Outagamie county the orchards are about with us here. Most all the old standard kinds are dead, occasionally a good seedling.

There was quite a crop of grapes last year. Not much mildew; but the drouth lessened the crop materially and ripened them early. For mildew we use sulphur with lime put on dry; the hotter the day the better. It should be used when in bloom and just before turning.

We would advise planting seeds from the largest, hardiest and handsomest apples, and a large per cent. of the fruit will favor the parent seeds. Of Alexander almost every tree the fruit in looks in part resembles the parent.

The Garfield Sweet, the largest, handsomest and most

salable sweet apple is of Alexander seed. The Lind and Ma Whinny also large, handsome and good keepers; and the two latter quite hardy.

I have not known the seeds of the Duchess to give a worse apple than the Duchess. Many of them winter apples are of good size and quality and the trees are all hardy.

We have seen the same with seeds of the Wolf River, only they are not so good keepers. We have got, and will get more that will stand this climate without going to Russia.

FOURTEENTH DISTRICT — MRS. H. C. VAUGHN, ASHLAND.

Counties — Ashland, Bayfield, Douglas.

Conditions of Temperature, etc.

In submitting report for this district, I give the observations and experience of twenty-two years. My garden is on the shore of the bay, exposed to the lake winds, but I have never noticed any injury to trees from the strong winds. There has been but little attention given to fruit and vegetable culture with a view to profit, as they are brought in from the central portion of the state, but I am sure if one were to turn his attention to gardening, it could be made profitable.

Varieties Fruited.

Last year, 1886, I had a fine crop of apples — Duchess of Oldenburg, and two other varieties the names I have forgotten.

Of strawberries, the favorite varieties are Sharpless and a Canadian variety.

Currants — Common red: White Grape and Fay's Prolific fruited well.

Of red raspberries, Herstine Lumn; of black, Doolittle improved.

Blackberries do not do well in our gardens, although a few are found wild, but of inferior quality.

Gooseberries and cherries do well here.

Soils, Sites and Resources.

The soil is a heavy clay, but peculiarly adapted to flowers and small fruits. There seems to be a great amount of lime in it. I use wood and coal ashes as fertilizers.

Fruit Growers, etc.

Capt. Tanner, of Ashland, has several acres about two miles from town, devoted to fruit and vegetable culture. The soil is sandy, but very productive. He raises large crops of strawberries, which sell readily for 18 cents per quart. He also has a large crop of celery of excellent quality, all kinds of vegetables and many small fruits.

Diseases, Insects, etc.

In 1874 we were troubled with currant worms, and our fruit crop ruined by black caterpillars, but a free use of hellebore drove the currant worm away, and we have had no trouble since. The caterpillars still trouble our fruit trees, but a free use of insect powder has so far saved our trees.

Vegetable Gardening.

There is more encouragement for vegetable gardening than in any place I have ever seen. The season is short but the rapid growth of vegetation brings to our table everything in perfection. There is no vegetable that cannot be raised here; crisp celery that keeps until April, delicious sweet corn, cabbage, in fact all varieties. The cut-worm is unknown — in fact vegetables have no enemies in this soil.

Flower Culture, etc.

I have in my yard over thirty varieties of roses, many of them classed as Tea, China and Bourbon. They all bloom profusely and not one of them requires winter protection — nearly every shrub I have seen cultivated in Ohio grows luxuriantly and there are none of the insects so common in other localities. My experience has taught me that too much care for the protection of my plants is ruinous — so in

the fall I have well decayed manure put around the roots of all fruit trees and shrubbery. My dahlia, gladioli and other bulbs are stored in the cellar.

Fruit and flower culture involves very little labor if weeds are kept down and the soil well enriched.

New or Specially Valuable Sorts, etc.

I have tested hundreds of new varieties — I always note those marked *hardy* and give them the preference — and usually am successful in their culture. I wish particularly to call attention to the culture of the purple leaved barberry and high bush cranberry, both useful and ornamental. They grow luxuriantly and are no trouble and well repay for a little care in planting.

A also want to call attention to the Glendale strawberry.

I have for ornamental trees cut-leaved maple, horse chestnut, wild plum, oak and ash.

I shall be glad to give any information in regard to gardening or fruit culture which I may have omitted in this brief report.

REPORT OF JANESVILLE HORTICULTURAL SOCIETY.

Our society is twenty-one years of age, being organized in 1866. The changes in membership are but few. At our annual meeting held October 27, 1886, the following officers were elected :

President —Geo. Kellogg.

Vice President — James Helms.

Secretary — E. B. Heimstreet.

Treasurer — J. B. Whiting.

Geo. J. Kellogg, E. B. Heimstreet and James Helms were appointed delegates to the meeting of the State Horticultural Society to be held February, 1887.

The June meeting was a decided success. There were fifty-three members of the State Society present. The best show of fruit ever exhibited before, and by the society.

The fifty varieties of seedling strawberries by F. S. Loudon, the wonderful show of Jessie on the tables; the visit to the grounds of Mr. Loudon, the entertainment there; the excellent papers, good attendance and everything passed off pleasantly. There was also a commendable show of vegetables and long-keeping apples.

The list of members added to the meeting was,Geo. J. Kellogg, H. S. Woodruff, F. S. Loudon, Edith Kellogg, of Janesville, life membership: J. M. Bostwick, Cyrus Miner, Geo. Hauthorn, W. G. Wheelock, J. A. Fathers, Walter Helms, S. S. Miller, H. Tarrent, J. G. Williams, John F. Spon, Mrs. S. A. Plummer, of Janesville. Annual membership: J. W. Hanche, Racine; C. K. Sutherland, Waukau; C. C. Fisher, Center; John Crow, Center; E. F. Rinos, Sparta; F. M. Towne, 1331 Dunning street, Chicago, Ill.; J. B. Smith, Clinton; O. P. Freeborn, Milton, annual membership.

Amount received at meeting	$120 50
Amount paid out for premiums and expenses	119 65

The premiums offered amount to one hundred and fourteen dollars ($114.00) of which there was awarded ninety-eight dollars ($98.00.)

I also enclose list of premiums offered.

Our membership is now, life members, 28; honorary members, 13. Total membership, 41.

Respectfully,

E. B. HEIMSTREET,

Secretary.

REPORT OF GRAND CHUTE HORTICULTURAL SOCIETY.

The meetings of this society have been held quarterly the past year; the attendance has been larger than formerly, the display of fruits, plants and flowers larger and finer than in previous years, and the discussions more interesting.

Many of our members are engaged in the culture of small fruits. Strawberries are grown in many gardens.

The Wilson and Crescent are considered the best varieties. In a dry season like the past summer, the latter was found the most profitable.

Red raspberries are grown more extensively than the black. While we admire the color, size and flavor of the Cuthbert and the Marlborough, all prefer the Philadelphia for general cultivation.

The Mammoth Cluster is grown in some gardens, but is not generally cultivated.

There is an increasing interest in grape culture. Some of the newer varieties, such as Niagara and Parklington, have been set, and now give promise of fruit next season.

Of the older varieties the Delaware and Rogers No. 4 and No. 15, were found most profitable.

The Concord is grown by nearly all cultivators of grapes in this locality, and is always satisfactory.

The apple crop was very light in this vicinity.

The Duchess and the Tetofski bore heavily; other varieties were an entire failure, except the Utter. A few of these trees in one orchard bore heavily. The fruit was fine, and the tree endured the previous winter without injury.

The annual meeting was held on the 6th of January, 1887. The election of officers resulted in the choice of E. Spencer, president; A. H. Burch, treasurer; Mrs. D. Huntley, secretary.

New York Botanical Garden Library
3 5185 00257 5924